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ROLE OF THE PHYSICIAN IN INDUSTRY IN THE CONTROL OF ACUTE RESPIRATORY DISEASES

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The prevention and control of acute disease of the respiratory tract is the most serious problem and at the same time the most urgent challenge that today confronts medicine in general and industrial medicine in particular. Although diseases and injuries of occupational origin have long claimed the chief interest and attention of physicians in industry, it is now well established and generally recognized that in their frequency and importance nonoccupational diseases far outweigh those conditions which arise from industry. The latter are chiefly responsible for the stupendous losses in both time and money to employer and employee alike that have already been so well emphasized. This is strikingly illustrated in a report made by Newquist of the American College of Surgeons, in which a comparison is drawn between time lost per employee annually from occupational diseases as compared with the loss from nonindustrial diseases and injuries among 352,591 workers employed in 160 different companies. This study shows a net annual loss from occupational diseases and injuries of six-tenths a day per person, whereas nonindustrial illness accounted for eight and eighty-five one hundredths days loss per employee annually. In other words, the average employee suffers a time loss fifteen times greater from nonoccupational causes than from disease or injury incident to employment. The conspicuous role of nonindustrial disease as a factor in industrial inefficiency is too well known to require further elaboration.

In view of the appalling economic losses due to the ravages of nonoccupational diseases among workers, employers and industrial physicians are evincing an ever increasing interest in the control of such diseases among their employees. Nonoccupational lost time in industry is caused by the same diseases that are found everywhere among the community in general. Therefore, as the industrial physician seeks to control these diseases, he is brought more and more in contact with private physicians and public health agencies. It is only through the cooperation of all these forces that ultimate success can be attained in the prevention of nonoccupational illness. This emphasizes the well known fact which should never be lost sight of, that industrial medicine is in fact only a specialized part of the broad domain of public health and hygiene and that the most legitimate and constructive activities of the industrial physician should be exerted in the field of preventive medicine.

An analysis of the nonoccupational diseases that are so disastrous to the workers of this country indicates that acute infections of the respiratory tract are the leading offenders. Sappington gathered statistics over a five year period among 2,200 employees of a public utility company, regarding the incidents and causes of absenteeism. He found that sickness accounted for 92.1 per cent of all absences, whereas accidents of all kinds accounted for the remaining 7.9 per cent. Out of 14,280 cases of sickness that caused lost time to a greater or less extent, 6,335 cases were due to so-called minor infections of the respiratory tract such as the common cold, pharyngitis and tonsillitis. This did not take into account some of the more serious acute infections such as influenza or pneumonia that were included in a group of 4,634 cases classed as miscellaneous diseases. It is therefore no exaggeration to state that in this group of employees over 50 per cent of the cases of sickness were due to acute infections of the upper respiratory tract. These observations are in accord generally with the clinical experience of practitioners and industrial physicians. Numerous studies in the field of industrial medicine have amply demonstrated that more than 50 per cent of the time lost from work is caused by colds and their complications. According to a survey made several years ago by the United States Public Health Service, it is estimated that each of the 42,000,000 gainfully employed persons in the United States loses two and one fifth work days each year because of the common cold. The costs of this lost time to the workers and employers of this country runs into a staggering figure, which has already been emphasized. Without further elaboration it is apparent that no more urgent problem presents itself to the physician in industry than devising ways and means for the control of acute infections of the respiratory tract. Not only is the problem of grave import from the economic and industrial aspects, because of the tremendous losses which these conditions entail and the disruption of and delay in production which they are capable of bringing about, a factor of vital importance at this particular time, but it is of equal or even greater importance from a purely medical point of view.

Although the common cold and other infections of the upper respiratory tract may, as a rule, be classed among minor illnesses, they are potentially serious and if overlooked or neglected may be responsible for serious complications. For example, infections of the middle ear may lead to mastoiditis and its complicating sinus thrombosis, brain abscesses and meningitis. The lower respiratory tract may become involved in a

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bronchitis which may go on to bronchopneumonia or chronic disease of the bronchial tubes with its attendant bronchiectasis. Among the more serious complications that may result from minor infections of the respiratory tract may be mentioned pneumonia, pleurisy and involvement of the endocardium with its train of disastrous results, as well as blood stream infections. The control of acute infections of the respiratory tract merits the best efforts of industrial medicine, not so much because of their effect on industry as because they jeopardize the health and even the lives of those who are employed.

REASONS FOR SLOW PROGRESS IN CONTROL

It may well be asked why so little progress has been made until this time in the control and prophylaxis of acute infections of the respiratory tract. The first reason is that the specific etiologic factor has not yet been discovered. From the extensive researches of Dochez and his associates, of Rivers and many others, it is now generally agreed that the important etiologic agent is a filtrable virus rather than the various pathogenic bacteria that are harbored in the nose and throat, particularly during the winter months, of persons who live in the temperate zone. They must be looked on as secondary invaders whose virulence is increased by the presence of the virus of the common cold and influenza. However, it is these bacteria that probably are responsible for the severity of the symptoms and for the more serious complications.

When the specific cause of any disease is known, as for example typhoid, diphtheria and more recently pneumonia, its control becomes a reasonable possibility, especially if a method of immunization can be developed or if the causative agent is susceptible to chemotherapeutic attack. Until this time, in spite of repeated efforts and much research, no satisfactory method of immunization has been developed against these virus-born diseases. Therefore no specific prophylactic agent is available against the basic cause of most of these acute infections, although along this line headway has been made in dealing with the secondary invaders.

The second reason why so little progress has been made in the control of the common cold and kindred disorders is psychologic rather than bacteriologic. It is due to the general lack of understanding of the importance of these common diseases. It has been difficult to arouse the interest of both the industrial and the nonindustrial public to the seriousness and far reaching consequences of so widespread and commonplace a disorder as a cold. It has not been difficult to obtain the cooperation of workers in movements directed toward accident prevention. It has, however, proved an uphill struggle to arouse their enthusiasm for sickness prevention. There is no difficulty in impressing on even the dullest laborer the disastrous effects of a fractured skull or a crushed leg, but it is no easy task to convince even the worker with a high intelligence quotient that minor respiratory infections to which every one is subjected at some time are far more serious to the community as a whole and to industry in particular than the comparatively rare major accidents. When lay and professional apathy toward the consequences of minor illnesses shall have been overcome, a definite beginning will have been made toward the control of acute respiratory tract infections and their sequelae.

METHODS AVAILABLE TO INDUSTRIAL PHYSICIANS

The efforts of the industrial physician to control infections of the respiratory tract begins with the preemployment examination. There are certain defects which predispose to acute respiratory diseases. Among these can be mentioned enlarged infected tonsils, nasal obstruction, adenoids, deflected septums, hypertrophied turbinates, the existence of nasal spurs and polyps as well as chronic infections of the sinuses. At the time of this examination one can recognize the existence of a phthisinoid or an emphysematous chest or the presence of a chronic bronchitis or bronchiectasis as well as the condition of the cardiovascular system, bearing in mind the fact that cases of mitral disease are notoriously liable to recurring bronchial infections. The general nutrition of the patient, the existence of anemia, the presence of various chronic visceral diseases should all be taken into account. When conditions such as the foregoing, which obviously predispose the applicant for employment to acute respiratory infections, are discovered it should be the duty of the industrial physician to make plain to the applicant the seriousness of these conditions, to urge their correction and to do everything possible to induce the applicant to place himself or herself in the hands of a private physician in order that suitable remedial measures may be instituted. In this way the industrial physician may prove a distinct aid to local practitioners, will gain their cooperation, will more closely cement friendly relations with them and, at the same time, do a piece of constructive public health work.

One of the most important steps in the proper control of respiratory diseases among any group of workers is to institute an adequate system of checking up absenteeism and the reporting of all acute illnesses. In many plants it is a practice not to determine the cause of absences until the employee has been away from work a number of days, often as long as a week. With such a system it is impossible to keep a proper record of minor acute respiratory infections, as most of these run their course in less than seven days. The ideal plan is to have all absenteeism investigated at the end of the first twenty-four hours. Preferably investigation of such illnesses should be carried out by the medical department or one of its representatives rather than by some lay member of the organization. By the early reporting of time-losing illnesses, a valuable and effective record of the existence of respiratory infections may be made. If a trained representative of the medical department visits the homes of such ill employees, some ideas may be obtained of the environment in which the ill employee lives, and often this is an important factor in recurring illnesses of the respiratory tract. If a given employee is repeatedly absent because of minor acute infections, it should be the duty of the medical officer to see that such an employee is given a thorough examination in order to determine the existence of any conditions that predispose to such infections with the idea of having them remedied at the earliest possible moment. In addition to having individual absences reported within the first day or two, it is also of advantage to institute a system by which the supervisors of the various departments of a given plant render to the medical department at stated intervals, a week or a month, a sickness disability report on which is recorded the names of employees, their particular duties, and the cause and duration of their absences. With a series of such reports before him, the industrial medical officer can

readily determine in what department the greatest incidence of respiratory diseases occurs. When it is found that they occur with abnormal frequency in any given portion of a plant, steps should be taken to determine by careful inspection the conditions that may exist which are responsible for this undue frequency of respiratory infections. Thus an opportunity is given the medical officer to correct various unhealthful conditions such as overheating, improper ventilation, the existence of drafts, working in wet clothing or various factors that make for undue fatigue, all of which may be important contributing causes in the production of colds and like infections.

It is unnecessary to stress the fact that the industrial physician should be primarily responsible for the general sanitation of a plant. In the course of his inspection he should have in mind not only those factors which are connected with occupational diseases and accident hazards but also those conditions which tend to increase the frequency of colds and other respiratory infections. These conditions should be well known to every trained physician and scarcely require detailed consideration at this time.

It is well known and repeatedly demonstrated in the experience of every physician that infections of the respiratory tract are readily transmitted to noninfected persons by sneezing and coughing of infected persons and by contamination with infected hands and various articles such as towels, napkins, drinking vessels and doorknobs. The most important problem therefore in the control of acute disease of the respiratory tract is the proper supervision and regulation of those persons who are infected, in the effort to prevent further spread. It is not those who are sufficiently sick to be confined to bed that offer the difficulty but those who are slightly ill and ambulatory and as a consequence are able to continue their work and mingle with their co-workers. The adequate control of the infected worker will depend largely on the intelligence and the cooperation of their immediate supervisors. Without this, little can be accomplished; for the majority of such ambulatory persons rarely seek the advice of the medical department. Supervisory employees should be thoroughly instructed as to the transmissibility and the potential seriousness of even minor acute respiratory disease. They should be prompt to recognize the existence of such an infection in those under them. Obviously the most effective means of preventing the spread of these infections is to remove those who are suffering from such infections from contact with their fellow employees. Such a procedure is essential if infections are severe and are associated with much sneezing, coughing and nasal discharge. Such persons should be urged to go home and promptly seek medical advice. If such steps cannot be brought about by a supervising employee, the aid of the medical officer should be invoked. In any event the existence of such cases should always be brought to his attention. Every person with recurring or unduly protracted respiratory infection should be sent whenever possible to the family physician for careful examination and adequate treatment. Such persons should not be allowed to return to work where others may become infected until the condition has been cleared up.

In many instances it is not practical and sometimes it is impossible to remove from their work employees who are suffering from minor colds and similar infections. Under such circumstances, however, they should be thoroughly instructed as to the ordinary precautions that are necessary in order to minimize the possibility of spreading the infection. When possible they should work as far away from other employees as is consistent with the job. They should be cautioned about covering the mouth and nose when sneezing or coughing. They should be supplied with and made to use suitable tissue paper handkerchiefs for wiping the nose and mouth, which can be kept in a container and readily and promptly destroyed. The use of soiled linen handkerchiefs to be crammed in pockets or allowed to lie around workrooms should be firmly discouraged. Frequent washing of the hands should be encouraged. These employees should be instructed to keep away from the mouth or nose their fingers and such articles as pencils, papers and tools. In addition to specific instructions to individual employees, supervisors should be thoroughly versed in the procedures which are most likely to limit the spread of infection among any group. They should see that all tools and equipment are kept clean. They should learn the importance of moderate heating and proper ventilation of workrooms. As far as possible they should avoid overcrowding of those who work under them, and they should see to it that articles such as drinking cups and towels are not used in common by those in their charge. Above all, supervisors should constantly urge the early and adequate treatment of every infection of the respiratory tract, however minor it may seem.

In the presence of extensive epidemics, or when at any given portion of a plant an abnormally large number of respiratory tract infections develop, it is sometimes advisable for the industrial physician to institute active medical measures with a view to combating the spread of the infection. Personal experience has indicated that it is helpful under such conditions to have a competent medical officer visit the portions of the plant where infections are unduly active, to make a daily systematic inspection of all the employees in order to recognize new cases and have them removed from contact with other employees, and to subject every member of the group to systematic spraying of the nose and throat by a suitable mild antiseptic. Doubt may be expressed on the part of some as to the value of such a procedure. If properly carried out by a qualified doctor and if mild antiseptic solutions are used, it can do no harm; it appears to have been productive of some good and, in any event, it has proved a definite benefit to employee morale and has done much to increase the confidence of employees in the medical department.

EDUCATION OF EMPLOYEES

The education of employees in health matters is undoubtedly an important function of the industrial medical officer. Nowhere is this of greater importance than in the campaign against infections of the respiratory tract. Effective propaganda of this kind requires the close cooperation and support of the management and those charged with publicity as well as the medical department. Various methods may be employed such as timely posters, health bulletins, lectures, and suitable articles appearing in company magazines. But whatever method or methods are employed, they must be well prepared and presented in a way that appeals to and makes an impression on the employee. The statements must be authoritative. They must be accurate. They must be couched in terms that are readily understood by those who have no technical knowledge of health matters. They must be timely and prepared

in a way that attracts the attention of employees, appeals to their imagination and amuses at the same time that it instructs. Hackneyed, trite, dull and outworn material will lessen rather than stimulate the interest of employees in sickness prevention and health preservation. It is unnecessary to dwell on the detailed information that should be contained in such literature. The method and type of presentation must be modified to suit the kind of employee to be reached and should be left to the ingenuity and originality of the medical officer and his publicity advisers. However the subject is presented, the employees should be impressed with the fact that infections of the respiratory tract are potentially serious, that the advice given is solely for the protection and good of the employee, that the reporting of illness in no way jeopardizes their jobs and that nothing that is being done or said in reference to their health is designed to interfere with their personal liberty or in any way restrict their free choice of their own physician.

Whenever possible, the industrial physician should urge the establishment of health and nutrition courses. No better method can be found to arouse among employees a responsibility for their own health and that of their families and associates than a systematically arranged, simple course of instruction taken voluntarily and without expense and conducted by specially trained fellow employees under the general supervision of the industrial physician. When time is not available for the conduct of such courses, employees may be given suitably prepared elementary textbooks on health and nutrition, and a course may be conducted by mail.

ABSENCE OF A SPECIFIC

When a specific and effective prophylactic has been found for the control of the common cold and allied infections of the respiratory tract, the problem will have been solved and many of the elaborate and cumbersome procedures to which we are now forced to resort will be superseded. At the present time, unfortunately, no satisfactory method of active immunization against colds and influenza has as yet developed. For years active efforts along these lines have been made. Vaccines made from the bacteria commonly found in the nasal pharynx, now recognized as secondary invaders rather than as the initial etiologic factor of colds and infections of the upper respiratory tract, have been repeatedly used. Reports as to their efficacy vary. The weight of evidence, however, would seem to indicate that the results to date are not sufficiently consistent to justify advocating the wholesale use of such a procedure among employees. Recently the use of enteric coated vaccine tablets for administration by mouth which contain the common types of pneumococcus, Micrococcus catarrhalis, influenza bacillus, various forms of streptococci, staphylococci and the Friedländer bacillus have been put on the market and have their advocates. Here again reports are conflicting, and one is forced to the conclusion that at present there is not available any effective specific method for the prevention or control of acute infections of the respiratory tract. The modern trend of chemotherapy offers much hope, and what has come to pass in the management of pneumonia may be repeated in the case of virus-born infections.

The common cold and acute infections of the respiratory tract still remain the outstanding problem in industrial medicine. Until our knowledge of virus diseases is further advanced, they will continue to tax the resourcefulness and the best efforts of the physicians in industry. The urgent need to bring under control this group of infections, which more than all other diseases disable the workmen of this country, is particularly vital at this time. With our nation committed to a vast program of rearmament, it is the duty of industrial physicians to contribute to our preparedness efforts by bending all their energies to keep the wheels of industry from being clogged by epidemics of respiratory disease.

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INCIDENCE AND COSTS OF ACUTE RESPIRATORY DISEASE IN INDUSTRY

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The common cold has been the subject of intensive study for a number of years. In 1923 Frost and his co-workers in the United States Public Health Service commenced a study of the incidence of colds that extended over ten years, and numerous statistical studies emanated from the Public Health Service, prepared by Brundage, Britten and others. All these studies showed a fair degree of unanimity, allowance being made for the fact that the term "common cold" is descriptive rather than scientifically accurate. It is difficult, if not impossible, at times to determine when a cold is not a cold, and the term itself, in the popular usage, is mingled with other terms, such as grip, influenza, nasal infection, cough and sinus trouble so as to constitute a statistical headache for any one who strives to be accurate.

In recent years attention has been focused on sick absenteeism among industrial workers, and an increasing number of industrial firms began to compile records of such absenteeism among their employees. Allowing for variations in computing lost time, one fact stood boldly out in all such compilations, namely the preponderance of colds as a cause of lost time. The nature of the occupation could in some instances be linked to colds, but geographic location did not cause any important variation. Sex did; women consistently show a higher absenteeism rate from this cause than men.

In 1927 Brundage[1] stated that "colds caused far more absences and much more lost time than any other specific disease or condition." Subsequent investigations have not impaired the accuracy of this statement.

How common are common colds? Even the least observant person would answer that everybody has them. There are few people indeed who are not familiar, through personal experience, with their discomforting effects. The Committee on the Costs of Medical Care has shown that when visits are made to families every four or five days with the specific purpose of discovering minor respiratory illnesses, survey records yield a rate of three to five colds per person annually. Many of these, it may be assumed, were not severe. An annual average of two severe colds, though not necessarily severe enough to cause

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1. Brundage, D. K.: A Ten Year Record of Absences from Work on Account of Sickness and Accidents, Pub. Health Rep. 42:529 (Feb. 25) 1927.

confinement at home, under our present popular attitude toward treatment and toward the protection of others would seem to be a conservative estimate.

In considering colds which incapacitate workers from carrying on their daily tasks, one can speak with a little more definiteness. There again the comparison of various groups and the combination of various experiences to arrive at a total present definite difficulties. There is a growing tendency for persons who have colds to stay away from work when the industrial medical service has put emphasis on this phase of prevention. This tendency, if it can really be called such, is influenced by whether the person who is going to stay at home with a cold will suffer monetary loss by so doing.

The following figures are presented as being well on the conservative side, having in mind the various reports of investigations that are available as well as first hand experience.[2] Among a group of fourteen thousand clerical workers last year there were sixty-one colds per hundred male employees, causing a loss of one day or more. Female employees averaged one cold per person. More than half of the time lost through absences of one week or less was caused by colds. Under this heading are included cases diagnosed as "grip" and "influenza" which were of less than eight days' duration.

A study dealing with sick absenteeism among the employees of a public utility company covering the years 1933-1937 inclusive shows that the annual average number of colds, disabling for one day or longer, was twenty-two per hundred male employees and forty per hundred female employees. My surmise is that in the latter group persons came to work with colds who would have stayed at home in the first group. Some of the more serious cases were classified under other headings.

Taking into account various studies, including our own experience, the best information available indicates that time lost from work because of the disorders grouped under the name of colds and acute respiratory infections averages one day a year for each worker, male and female. Some figures higher than that will be found in the literature and I believe we are well on the conservative side. At the rate of one day off for all employed persons, one arrives at a figure of a loss of forty-five million days of work each year, or the full time work of a hundred and fifty thousand persons for a year. The cost of this falls on employee and employer alike.

As far as the employee is concerned, it is mostly a total loss, as the various forms of sick benefit plans do not cover absences of less than eight days. If we may assume an average wage of $4 a day, a rough approximation of the wage loss by employees is $150,000,000 a year. To this must be added the cost of medical care and drugs. If we take as our average a conservative figure of $5 per person a year so as to exclude the more severe types of respiratory diseases which may have weighed heavily in calculating the usual estimate of the cost per case, the medical cost to employed persons would run about $250,000,000 a year. Adding this to the wage loss, as far as the worker is concerned, gives a total loss of $400,000,000. As stated before, this estimate is undoubtedly a conservative one.

2. My collaborator, Mr. R. J. Vane, has worked out these averages.

What about the employer? Obviously the loss in production and that due to the disarrangement of plant routine is high. In a recent study it is estimated that the indirect costs of occupational accidents are four times as great as the costs of compensation and medical care. Again in the interest of conservatism, we will assume that the indirect costs of a cold are only as great as the direct costs and put the loss of the employer as being at least equal to that of his employee. Carrying the burden of the waste of one hundred and fifty thousand man years a year is not to be lightly put aside. One arrives then at another $400,000,000 lost, in all close to a billion dollars, and one would not have to strain the figures or imagination far to round out the total to a billion dollars.

It is a great deal of money even in these days of superfinancial computations. It carries with it its own argument for scientific study and attack.

PROTECTIVE EQUIPMENT FOR EYES IN INDUSTRY

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Our essential purpose in this paper is to acquaint the medical profession with the ways and means in vogue at present of protecting the eyes in industry.

"Of all the injuries sustained by industrial workers, those to the eyes are utterly preventable and wholly inexcusable." This statement, made by the safety director[1] of a large industrial concern, may at first seem rather broad. In 1936 this same safety director[2] reported that it had been over ten years since any one of his concern's 22,000 employees had lost an eye or suffered partial loss of vision.

A review of the medical literature will reveal that voluminous material has been written concerning the treatment of injuries of the eye but comparatively little about their prevention. Just a cursory study of a few statistics will show the obvious need of protection for eyes in industry. Unfortunately, accurate records of industrial ocular injuries are not maintained by all of the states or by the industries themselves. Most of the data compiled have been computed on the basis of the records in a few states, such as Ohio, New York and Pennsylvania. As many writers have pointed out, the figures physicians now possess are extremely conservative. It has been estimated that at least 15 per cent[3] of the blind of America have lost their sight because of occupational hazards. It is probably conservative to say that 10 per cent of all industrial accidents in the United States concern the eye and that, of the estimated three million accidents yearly, three hundred thousand are accidents involving injury to the eye and incapacitating the worker for one day

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Mr. H. Guilbert, safety director of the Pullman Company, the National Society for the Prevention of Blindness, the National Safety Council, and Dr. Hart Fisher aided in the preparation of this article. Much of the material used has been drafted from the American Standard Safety Code for Heads, Eyes and Respiratory Organs.

1. Guilbert, H.: No One Enters This Plant Without Goggles, Factory Management & Maintenance, March 1938.

2. Guilbert, H.: Eye Protection: The Importance of Goggles and Other Safety Equipment, Proceedings of the Industrial Session, National Society for the Prevention of Blindness, December 1936.

3. Resnick, Louis: Eye Protection in Industry, Sight-Saving Rev. 11:7 (June) 1931.

or more.[4] About two thousand eyes are lost in industrial accidents in one year. That is, two thousand eyes either are removed or have their vision entirely destroyed.[4]

Fifty million dollars is lost every year by employers and employees of American industry as the direct result of preventable injuries of the eye. This sum is the estimated cost of compensation paid, medical care received and time lost. This does not include the indirect losses, which are considerably greater.[5] It is rapidly becoming more difficult for a one-eyed man to find employment in any of the large industrial plants, and when he does he finds his earning power reduced.

Who is responsible for the occurrence of industrial injuries to the eye? Employer? Safety director? Industrial physician? Employee? All four are responsible,

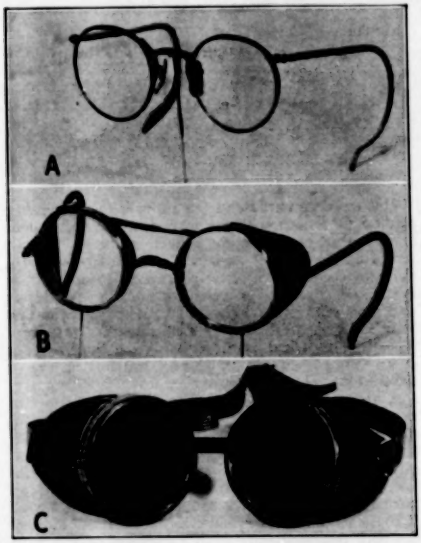

Fig. 1.—*A*, spectacle type goggles; *B*, impact goggles with metal side shields; *C*, goggles with eyecups and colored filter lenses. (Courtesy of the American Optical Company.)

but the burden of eliminating injuries to the eye falls on the first three. The employee cannot be expected to take the initiative. The first responsibility lies with the management. A management is just as responsible for the safety of its men as it is for production. The duty of the industrial physician does not stop with the treatment of ocular injuries. The physician and the safety engineer should work together and analyze the various factors responsible. This end obtained, the next step is to persuade the management to adopt a safety program for their prevention.

A large percentage of all ocular injuries occurs in small shops or on jobs in which only a few men are employed, for example as in garages; all varieties of small shops using machinery, and small construction jobs such as carpentry, plumbing, road building and stone masonry. Large industries employ both a safety director and a physician. In the case of smaller industries, injured employees are usually directed to a local physician. It is the duty of that physician to enlighten the employer about protective equipment for his employees' eyes. In a small industrial organization the same principles that govern the safety campaigns in larger concerns should be observed. One large industrial concern spent $25,000 in two years to reduce ocular injuries and saved $116,000. The percentage probably holds for any industry, large or small. The benefits accrued, such as the prevention of blindness, decreased loss of working time and increased confidence and efficiency, are proportionately as great in the small concerns.

A. PRELIMINARY EXAMINATIONS

General physical as well as visual examinations of every employee should be made at least every two years. The importance of this is obvious. Presbyopia, changes in refractive error and ocular and systemic disease may have reduced the vision of the employee since his previous examination. After any illness or injury the employee should be reexamined. If a worker is reemployed after employment with another concern he should be reexamined. All visual examinations should be made under the supervision of competent ophthalmologists. The value of visual and physical examinations is threefold. First, records of examinations eliminate medicolegal disputes which often arise concerning the employee's status at the time of employment. Second, workmen with no physical abnormalities and good central and peripheral vision are more alert and less prone to accidents. The correction of an existing refractive error, such as myopia or astigmatism, which reduces vision should be a prerequisite of employment. As Edward Jackson [6] has pointed out, "The exactness of orientation and coordination depends on accurate vision, which is often impossible without correcting lenses. Instant response to impending danger cannot be developed in one who has myopia or astigmatism, except for the limited range of accidents that can be apprehended with diminished visual acuity." Third, good health and good vision help eliminate mistakes and poor workmanship.

B. SURVEY OF THE INDUSTRY

It has been estimated that 80 per cent of industrial injuries to the eye are due to flying bodies, 8 per cent to tools or parts of machinery, 7 per cent to splashing liquids, 2.5 per cent to explosions, 2 per cent to falls and 0.5 per cent to infections. The states of Illinois, Indiana, Massachusetts, New York and Wisconsin classify certain of their accidents to eyes according to the kind. Of 12,347 accidents, 30 per cent were classified as lacerated wounds, 12 per cent as contusions, 20 per cent as burns and scalds and about 38 per cent as due to foreign bodies and all other causes.[4] From these figures one can see that the majority of injuries is due to flying bodies.

A complete and detailed study must be made of every type of operation in the plant. This investigation must be carried on continually by the safety director, or in a small plant by the manager, to determine those

4. Schwartz, L.: Injuries to the Eye in Industry, read before the third annual Greater New York Safety Conference, Feb. 24, 1932.
5. Resnick, Louis: Fifteen Years Progress in Eyesight Conservation in Industry, Sight-Saving Rev. 9:105 (June) 1939.
6. Jackson, Edward: Physiology of the Eye, in Berens, Conrad: The Eye and Its Diseases, Philadelphia, W. B. Saunders Company, 1936, p. 90.

occupations which are actually hazardous and those which are potentially hazardous. It is necessary for the physicians of large concerns to spend some of their time in the shops, and a physician who merely remains in his office and never visits the scene of an accident is negligent. True, the development of a safety program belongs in the realm of the safety director, but not infrequently the physician may be able to render valuable aid and counsel.

This brings up the question "What types of work are hazardous?" From an industrial point of view all occupations are hazardous. No one can foretell where, when or how an ocular injury may occur. For example, the occupations of cabinet makers, seamstresses and stenographers may be considered nonhazardous. Yet one large industrial concern, prior to the establishment of an effective safety campaign, reported injuries to the eye in these three occupations. It is evident that to attempt an ambient classification of all hazardous industrial processes or operations is impossible. However, one can outline those which have been proved to be the most hazardous. The American Standard Safety Code for the Protection of Heads, Eyes and Respiratory Organs [7] has outlined several classes of industrial processes which are definitely hazardous. The outline is illustrative only and was not intended to be a complete list of all the various types of industrial operations. The following is the outline given by the head and eye code:

GROUP A.—Processes where protection from relatively large flying objects is required. Examples of these processes are chipping, calking, some riveting operations and sledging in quarries.

GROUP B.—Processes where protection from dust and small flying particles is required. Examples of these processes are scaling and grinding of metals, stone dressing where quartz is not involved and some woodworking operations.

GROUP C.—Operations where protection from dust or wind is required. Examples are automobile driving, airplane piloting in open cockpits and electric spot welding where there is no exposure to radiant energy.

GROUP D.—Processes where protection from splashing metal is required. Examples are babbitting, pouring of lead joints for cast iron pipes, casting of hot metal if there is a possibility that water is present and dipping in hot metal baths.

GROUP E.—Processes where protection from gases, fumes and liquids is required. Examples are handling of acids and caustics, dipping and galvanizing tanks and some japanning operations.

GROUP F.—Processes where protection from an excessive amount of dust and small flying particles is required. An example of these processes is sand blasting.

GROUP G.—Operations where protection is required from reflected light or glare. Examples are long exposure to snow-covered ground, exposure to reflected sunlight from roofs, roadbeds and bodies of water.

GROUP H.—Processes where protection from injurious radiant energy with a moderate reduction in intensity of the visible radiant energy is required. Examples are oxyacetylene and oxyhydrogen welding and cutting; tending electric arc furnaces: open hearth, Bessemer and crucible steel making; furnace work; electric resistance welding; brazing, and testing of lamps, involving exposure to excessive brightness.

GROUP I.—Processes where protection from injurious radiant energy with a large reduction of the visible radiant energy is required. Examples are electric arc welding and cutting, irradiation with ultraviolet light and hydrogen welding.

7. American Standard Safety Code for Protection of Heads, Eyes and Respiratory Organs, United States Department of Commerce, National Bureau of Standards.

For a detailed classification of occupational hazards the reader is referred to bulletin 582 of the Bureau of Labor Statistics, United States Department of Labor.

A thorough survey of the plant having been made, the next step is to formulate a safety campaign. The means of preventing injuries to the eye by mechanical aid is just one phase of the campaign. The two most difficult features of any safety campaign are first its institution and second its continuation.

C. MECHANICAL PROTECTIVE DEVICES

After the completion of preliminary examinations and a survey of the plant the next thing to consider is a choice of the best protective equipment. From the preceding paragraphs it was learned that about 80 per cent of all ocular injuries are due to flying bodies. For this reason goggles are the most important and the best means of protection. Consequently the greater part of our discussion will center around the subject of goggles.

1. *Goggles.*—To date there is no one particular standard which is universally accepted. It is advised that all bear in mind that most injuries are due to impact, and therefore any clear or transparent goggles which will qualify as a good protection against impact will be suitable, except in those few cases in which special types are required. Many different kinds of impact goggles are on the market, but the fewer types used in any one industry the better.

Goggles may be classified according to the hazard they guard against, such as impact, dust, splash, fumes or gases and glare and injurious light rays. (Three types are shown in figure 1.) A description of some of the features of these goggles is necessary. Here we need merely to point out some of the salient features of each type. For further guidance and a more detailed description it is advised that the reader procure the series of federal specifications which have been prepared for the purchase of goggles and helmets by the federal government for the use of its own employees.[8]

The American Standard Code aims to give the essential qualities of protective devices and does not cover anything but the minimum essentials for such equipment. The person who is not familiar with this subject should insist that his protective equipment comply at least with the code.

Impact: Any goggles when provided with clear, hardened glass lenses [9] and side shields will afford protection against impact. The frames must be able to withstand hard usage and should be so designed that the lens will not be forced out of its seat by any but an exceptionally severe blow; then if the lens is broken, all large fragments will be retained and small bits not projected backward into the eye.

Dust: Protection against fine particles of dust and fine droplets of vapor can be obtained with goggles which enclose the eyes completely. Whether the goggles should be ventilated through minute holes or baffled slots depends on the composition and quality of the dust. Suitable hoods advantageously placed, proper

8. These specifications may be obtained from the Superintendent of Documents in Washington, D. C., by requesting catalogues G. G. G.—G.—501; G. G. G.—G.—511; G. G. G.—G.—521; G. G. G.—G.—171; G. G. G.—G.—201, and G. G. G.—G.—211.

9. A hardened lens is one which has been tempered in a way similar to the process of tempering steel, thus rendering the glass exceedingly hard and resistant to impact. It is a breakage-resistant glass which is about ninety times harder than the common glass used in spectacles today. This type of glass is preferable to the so-called shatter-proof variety, which is made of laminated glass and does not afford adequate protection against impact.

ventilation of the room and the removal of dust by mechanical suction methods should be studied. In most operations in which particles of dust and vapor are a factor respirators are definitely indicated.

Splash: Goggles must afford protection from splashing liquids, such as acids, and also from molten metal. Goggles of the eyecup type made of a material such as rubber, which is impervious to chemicals, are necessary for protection against liquid splashes. A recently produced bakelite substitute with baffled ports for ventilation appears to have some advantages over rubber, particularly in regard to fogging. Those made of noninflammable material which fit the face snugly and yet do not easily fog afford the best protection against splashes of molten metal. Clear hardened glass lenses are imperative in both types of goggles.

Fumes or Gases: Protection from fumes and gases is largely a matter of proper ventilation of the room and the use of respirators and hoods, some of which completely cover the head. However, if goggles are to be used, the same type described as suitable for protection against splashes is usually adequate except that the goggles should have no openings for ventilation.

Glare: Goggles with hardened colored glass lenses in a spectacle type of frame with or without side shields or eyecups are usually used for protection against glare. For details of the depth of color to be used in the glass, the reader is referred to the catalogue of federal specifications G. G. G.—G.—511.

Injurious Light Rays: Goggles of the eyecup type in which the hardened glass lenses are of a color sufficient to stop all infra-red and ultraviolet rays are indicated in such occupations as oxyacetylene and oxyhydrogen welding and cutting; tending electric arc furnaces; open hearth, Bessemer and crucible steel making; furnace work; electric resistance welding and brazing and testing of lamps. These lenses should meet the absorption and transmission requirements of the catalogues of federal specifications G. G. G.—G.—511 and G. G. G.—G.—211. Until recently it was not practical to make hardened glass lenses in color, but this difficulty has now been overcome.

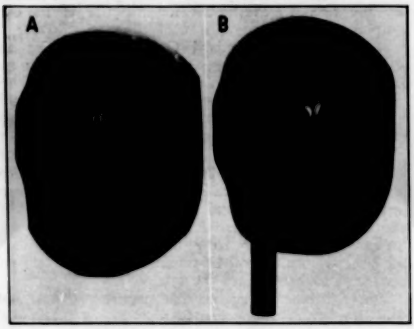

Fig. 2.—*A*, welder's helmet; *B*, welder's hand shield. (Courtesy of the American Optical Company.)

For electric arc welding and cutting and irradiation with ultraviolet light and for hydrogen welding, proper helmets or shields are best because the intensity of the infra-red and the ultraviolet rays requires full facial protection (fig. 2). Goggles should not be used except as added protection. Nearby workmen should be protected by adequate shields or goggles.

Construction of Goggles: The individual parts of goggles necessitate further description. The frames must be as light as possible and comfortably fitted to the face. They should have a smooth finish and be made of a material which will not corrode, will not discolor the skin and will withstand sterilization.

Fig. 3.—Lens-testing apparatus. The lens is removed from the eyecup and placed flat on the end of a wooden tube having an internal diameter of 17/100 inches (45 mm.) and a rim to fit the lens. A washer of rubber packing, not more than 1/8 inch (3 mm.) thick and of the same internal diameter as the tube, is placed between the lens and the tube. A 5/8 inch (16 mm.) steel ball is freely dropped from a height of 39 inches (1 meter) on the horizontal outer surface of the lens. The lens must not fracture from the impact of the steel ball. Any tendency to break with concentric lines of cleavage or cleavage parallel to the surface indicates an unsatisfactory hardening process. (Courtesy of the Riggs Optical Company.)

Eyecups, except those used for protection against splash, fumes or gases, should be made of a high grade moisture-resistant fiber or high grade condensation product. They must be of such shape as to conform to the contour of the right and left eye sockets of the average face. They must completely cover the sockets. In all cases the edges of the eyecups which touch the face should be of non-heat conducting material and should permit circulation of air. Goggles used for protection against fumes, gases and fine dust should not have openings for ventilation. The interior surfaces of the eyecups should have a permanent, nonreflecting finish. All direct light from a source in front of the wearer not passing through the filtering lenses and all intense stray light at the sides which may be dangerous or disagreeable to the wearer must be excluded by the eyecup.

Nose pieces should be covered with tan leather, treated cambric or soft rubber. If the weight of the goggles is borne by the bridge or nose piece resting on the crest or sides of the nose, these portions of the goggles should have broad, comfortable surfaces. Zylonite is often satisfactory.

Side shields are best made of metal. The material should be sufficiently pliable to permit adjusting the shield to the contour of the face. The ventilating holes must be baffled or small enough to prevent particles from entering. The edges coming in contact with the face should be smoothly finished to avoid irritating or cutting the skin. The side shields should be constructed to permit their being folded, so that the goggles may be placed in a case.

Goggles may be held in position either by temple pieces and ear hooks ("temples") or by a head band. If the latter is used it may be made of a cotton elastic webbing or solid rubber; it should be so fastened to

the goggles as to be easily replaceable and should not interfere with the facial fit of the eyecups. If temples are used they should conform to the requirements of the frames. Ear hooks should be flexible, properly formed to fit the ear and so finished or covered as not to cut or irritate the skin. The temples should be a separate unit and not a fixed part of the goggles.

All lenses should be hardened, clear and free from air bubbles, waves and other flaws. Many organizations still cling to nonhardened lenses for welders, although greater protection is now available. The resistance of the lenses to impact should be tested with the "drop ball" test and should at least meet the requirements of the federal government's specifications as shown in figure 3. According to the American code, in all cases except those in which they are ground to provide proper optical correction for defective vision, the front and rear surfaces of the lenses should be smooth and parallel within the following limits: lenses 9 minutes of arc (⅛ prism diopter) and cover glasses 35 minutes of arc (½ prism diopter). Specifications of the federal government require that the optical surfaces should not be effectively out of parallel by more than 4 minutes of arc (0.058 prism diopter). The purpose of these specifications is to insure that the lens is plano and has practically no refractive power. All lenses should have dimensions of not less than 38 mm. in the vertical and 44.5 mm. in the horizontal diameter. Most lenses today are larger.

It is a common practice in many industries to fit employees whose vision requires corrective lenses with goggles to wear over their own corrective lenses. This, in our opinion, should not be condoned. The employee is burdened with an extra pair of glasses, and it is conceivable that a blow striking the cover goggles may shatter the lenses beneath, with disastrous results to the eye. All employees with ocular defects necessitating corrective lenses should have their goggles ground for the correction of their individual refractive error.

All lenses except those for protection against glare and injurious light rays should transmit not less than 89 per cent of the incident visible light. Every lens should have a permanent and suitable label or mark by which the manufacturer and the grade of lens may be identified.

Enforcement of Wearing Goggles: After the industry has been surveyed and the correct type of goggles has been selected there remain three important phases of a good safety campaign: (1) purchase of the goggles, (2) maintenance of the goggles and (3) persuading the employees to wear the goggles.

The most satisfactory way of insuring authorized and standard protective devices for every employee is for the management of the industry concerned to purchase all equipment. Some companies supply goggles without cost to the worker; others sell them at approximately cost price. Goggles with optical corrections, even bifocals, are available at surprisingly low cost, so there is no excuse for workers in any industry, large or small, not having protective goggles. Goggles and other protective devices should be obtained from firms which guarantee their products to comply with code requirements. If proof of such compliance is desired, representative samples of the equipment may be tested by the purchaser if he has the testing facilities, or they may be submitted to a competent technician.

Maintenance: Maintenance of the goggles is exceedingly important. The immediate replacement of old and worn or broken parts is essential. In the long run makeshift repairs with substitutes for the proper parts greatly reduce the efficiency of goggles and prove more costly. The resistance of hardened glass lenses to impact is reduced by age, continuous exposure to intense heat and repeated trauma. This statement has been questioned by at least one reliable authority. Hardened lenses should probably be replaced no less often than every three years and immediately after a severe blow that does not break the glass. All goggles and other protective equipment must be at all times in perfect condition. In any industry, large or small, the responsibility of maintenance should be carried by the management. A central department, with a competent and trained attendant in charge, to which the employees may bring their equipment for repair is by far the best solution for large concerns. Small shops

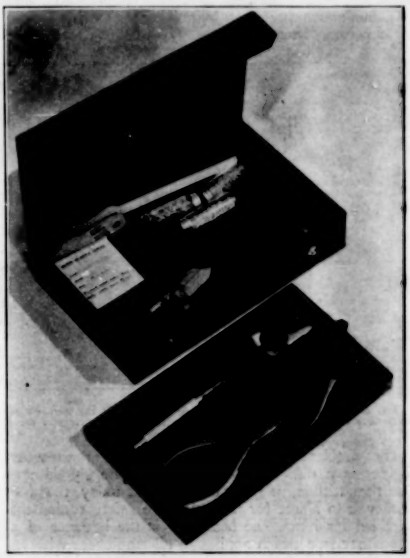

Fig. 4.—Small portable repair kit. Note the extra parts and the tools necessary for the repair of goggles. (Courtesy of the Pullman Company.)

employing only a few men may find it advantageous to send their repair work to an outside repairman. One company maintains small but complete repair kits for use in small branch shops in which only a few men are employed (fig. 4). The foreman in charge of the shop has been trained to make all minor repairs. All equipment should be inspected frequently, to make sure that it is in good condition.

It is most important that every pair of goggles be properly fitted to the individual wearer. If the goggles are not comfortable the worker will not wear them. Every worker who has defective vision that can be corrected should have the proper corrective lens ground for his goggles.

Condensation of moisture on the lenses of goggles (fogging) is frequently observed. This can be controlled to some extent by the proper ventilation and adjustment of the goggles. Many antifogging compounds are sold on the market, but for the most part they are expensive and no more efficacious than more simple remedies. A small amount of soap rubbed on both sides of the lenses and polished with a dry cloth will serve just as well as more elaborate substances.

All goggles should be sterilized at frequent intervals, and goggles worn by one employee must be sterilized before being issued to another. The Head and Eye Code recommends that all goggles be of a material which will withstand sterilization by any of the following methods: (1) immersion for ten minutes in a solution made by placing one part of 40 per cent formaldehyde solution in nine parts of water; (2) subjection to sterilization in a moist atmosphere of a suitable antiseptic gas, preferably formaldehyde, for a period of ten minutes at room temperature; and (3) immersion in either boiling water or live steam for a period of ten minutes.

Fig. 5.—These goggles saved eyes. A statement by the workman whose eye was saved gives the circumstances of fracture. (From a larger display, courtesy of the Pullman Company.)

The problem of persuading the worker to wear goggles is a difficult one. However, one should not take the attitude, so generally accepted today, that the worker is to blame for not using the safety equipment provided for him. The best plan is the issuance of a mandatory rule which applies to all employees without exception and includes managers, foremen and visitors. If a worker fails to comply with the order, some concerns warn the person for the first offense and then impose a penalty for the second. The penalties are usually of a monetary nature. Education of the worker to make him safety conscious is essential. An object lesson in wearing goggles is given in figure 5.

2. *Safety Devices on Machines.*—Many devices such as metal and glass shields are placed on machines to prevent flying bodies from striking the face of the operator. It is our opinion that in no case does such equipment suffice in place of protective goggles; such devices should be used only as an adjunct to goggles. A problem that is largely out of the realm of the physician is that of engineering revision. Louis Resnick [10] defined this subject as "accident prevention through fundamental changes, rather than through the addition of protective devices to an inherently dangerous machine or operation." This aims at elimination of the underlying cause of accidents rather than the covering up of danger points. There is no doubt that much will be accomplished by this method of attack, and for the astute safety engineer it presents an exceedingly fertile field for investigation.

3. *Illumination and Ventilation.*—The importance of proper illumination as a factor in the prevention of ocular injuries is obvious but generally it is disregarded. As LeGrand H. Hardy [11] has stated, "'Eye fatigue' and defective vision are two of the common causes of accidents. The condition usually is traceable to one of two sources, the environment or the eye. The most common environmental cause of eyestrain or poor vision is defective illumination." It is not within the scope of this paper to deal with the enormous and highly technical subject of illumination. It is urged, however, that the reader refer to the literature for articles on this subject written by Hardy and others.

It is well known that dust and some gases and vapors can and do produce ocular injuries which not infrequently result in the loss of function of the eye. Proper ventilation of the space and the removal of noxious agents by special mechanical appliances are obvious necessities. The subject of ventilation, like illumination, is far too large for discussion in this paper.

D. FIRST AID

It is not one of our purposes in this paper to discuss the first aid treatment of injuries to the eye except to call attention to the fact that blindness is often prevented by the proper and judicious first aid treatment of an injury. It is well to bear in mind that there are no trivial injuries to the eye and that every such injury deserves expert care. First aid should be administered only by a physician or else by a thoroughly trained nurse or first aid man who will recognize his limitations. The first aid station should be centrally located, with an attendant constantly on duty during working hours.

COMMENT

There exists still another hazard to the eyes of workers which has not been discussed and about which comparatively little information is available. That is the field of industrial poisons. The ever increasing number of poisonous chemicals that are being used in industry constitute not only a hazard to the safety of the eye but also a general hazard with regard to systemic disease. It therefore becomes the responsibility of all industrial physicians, safety engineers and nurses to familiarize themselves with all the poisonous substances that are used in their respectitve plants. The means of eliminating this hazard will come only through a study of these poisons.

10. Resnick, Louis: Elimination of Eye Hazards Through Engineering Revision, Industrial Relations Director, National Society for the Prevention of Blindness.

11. Hardy, L. H.: Illumination and Eyesight in Industry, Sight-Saving Rev. 2: 104 (June) 1932.

VISUAL EFFICIENCY IN INDUSTRY

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In the first draft of the last war visual defects led all other causes for rejection and were three times as common as the next in importance.[1] Such common defects must receive the first attention of the industrial physician.

Psychologists have found that approximately six times as many perceptions are based on vision as on all the other senses combined. Industrial efficiency, therefore, depends almost directly on visual efficiency. The industrial physician is, in fact, caught between the horns of a dilemma when he considers the prime importance of visual efficiency and the great prevalence of visual defects. This means that he has the task not of weeding out the defectives but of evolving a program of visual efficiency which will increase industrial efficiency. This means that industry must not be disrupted by adherence to arbitrary visual standards but that the efficiency of the individual workman may be increased through placement in a job in which he is not handicapped visually.

What data are available on the present visual efficiency in industry?

The most comprehensive record of vision in industry was a cross section survey made by the Eyesight Conservation Council in 1924.[2] This covered 204,817 employees of one hundred and seventy diversified industrial and commercial establishments in twenty-three states. Naturally, there was wide variation in the statistics from different plants, but the average was only 55.7 per cent of all employees with normal vision without glasses. An additional 19.6 per cent obtained normal vision with glasses. This left approximately one employee in every four working with subnormal vision (table 1).

Kuhn [3] found 21 per cent with visual acuity below 20/30 and 12 per cent whose vision had not been corrected with glasses in 16,332 industrial examinations (fig. 1).

The Life Extension Institute in an examination of 10,000 employees of diversified industries found 13 per cent wearing glasses, but 53 per cent had uncorrected defective vision.

The Eyesight Conservation Council was of the opinion that the percentage was increased by careful examination and estimated that 54 per cent of the employees of industry were working with subnormal vision. However, Kuhn's examinations reported this year were the most careful and exhaustive that have been done on a large scale, and her statistics show a much lower percentage of failures on visual acuity alone. This is partially explained on the basis of standards. The Eyesight Conservation Council accepted 20/20 as normal and acceptable. Dr. Kuhn adopted 20/30 as the lowest level of acceptable visual acuity. Is it not possible that a much lower level is acceptable in many occupations?

Industry is now employing about one workman in four with a visual acuity of less than 20/30. An additional 20 per cent have some other ocular defect. Careful evaluation of this situation is necessary. Are all these persons with defective vision inefficient? Should they be weeded out of industry, as they will be weeded out of the army, or what degree of perfection should the industrial physician demand?

Some of the most valuable men in a plant have poor vision. Fortunately there are comparatively few occupations that require perfect vision. It is impracticable to demand that every employee have perfect vision, but it is important to place employees in work that is within their visual capacity. Visual efficiency in an establishment depends on a knowledge of the visual defects of the employees and proper placement, with defects taken into consideration.

An important point in this connection is the effect of age. The gradual loss of elasticity of the lens throughout life unmasks refractive errors in the higher decades. This is demonstrated in table 2, which shows

TABLE 1.—*Statistics of 204,817 Employees* *

	Number	Per Cent
Normal vision without glasses	114,078	55.7
Defective vision uncorrected	50,566	24.7
Defective vision corrected	40,173	19.6

* Summarized from data compiled by Eyesight Conservation Council [2] in 1924.

TABLE 2.—*Variation in Vision with Age* *

Age	Total	Normal	20/30 or Less
6-7	697	58.6%	5.1%
8-9	1,221	61.9%	4.1%
10-11	1,251	65.3%	7.1%
12-13	977	69.9%	7.3%
14-15	532	69.4%	7.5%
16-19	184	71.7%	8.0%
	4,862 school children examined		
Age	Total	Normal	20/30 or Less
Under 20	356	77.2%	9.0%
20-24	696	67.7%	9.9%
25-29	1,137	61.3%	11.4%
30-34	1,078	60.1%	12.1%
35-39	1,023	54.9%	15.7%
40-44	715	49.5%	18.0%
45-49	572	34.6%	25.2%
50-54	341	22.6%	30.3%
55-59	196	17.9	32.0%
60-over	165	5.5%	67.9%
	6,479 industrial workers examined		

* Summarized from data compiled by U. S. Public Health Service.[4]

the result of a survey conducted by the United States Public Health Service in 1924.[4] Defective vision is not common among children but increases greatly in occurrence as age increases. Over the age of 60, only 5.5 per cent of persons have normal vision for distance without glasses. Periodic examinations are justified by this well recognized influence of the presbyopic process on visual acuity.

The statistics just given are based on the visual acuity for distance. Is this an adequate index of visual efficiency? The eyes are two finely coordinated organs which give not only an image of the object being fixed but a field of vision surrounding the point of fixation and a sense of orientation or depth perception through fusion of the images from the two eyes.

Visual efficiency, therefore, depends on several factors besides central or fixating vision, and even central vision may be considerably different for distant and for

Read before the Third Annual Congress on Industrial Health, Chicago, Jan. 14, 1941.

1. Seymour, Gertrude: The Health of the Soldier and the Civilian, Survey **39**: 227 (April 27) 1918.

2. Hamm, J. E., and Henry, G. A.: Eyesight Conservation Survey, New York, Eyesight Conservation Council, 1925, p. 81.

3. Kuhn, Hedwig S.: An Appraisal of Visual Defects in Industry, Am. Acad. Ophth., to be published.

4. U. S. Public Health Service: Variation in Eyesight at Different Ages, as Determined by the Snellen Test; A Statistical Study of the Results of Vision Tests of 4,862 Native White School Boys and 6,479 Male White Industrial Workers in the United States, Pub. Health Rep. **39**: 3189 (Dec. 19) 1924.

near objects, as in presbyopia. The appraisal of the relative importance of these different factors would seem to be almost a hopeless task. However, the Committee on Compensation for Eye Injuries, after six years of work, succeeded in reducing all these factors to a formula, which was approved by the House of Delegates of the American Medical Association in 1925. It has proved such a sound basis for the evaluation of visual efficiency that no scientific reason for any modification has been suggested since its adoption.

The following is a summary of the standard adopted:[5]

There are three coordinate elements of vision (*a*) visual acuity, distant and near, (*b*) field of vision and (*c*) muscular function. Other functions such as depth perception, color vision and accommodative power are recognized as secondary functions, even though they may be necessary to certain jobs.

(*a*) The visual acuity of each eye for distance is measured by the ability to recognize Snellen test letters at a distance of 20 feet (6 meters) and in an illumination of 3 to 10 foot candles.

The industrial vision test chart for near vision is employed at a distance of 14 inches (35 cm.) in an illumination of 3 to 10 foot candles. The reading ability

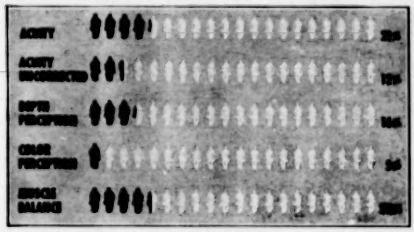

Fig. 1.—Graphic representation of the percentage of persons who failed various tests of visual efficiency in the survey conducted by Dr. Hedwig S. Kuhn[6] in 1940.

for distance and nearness is reduced to a percentage of central visual efficiency by consulting the table provided for this purpose. A onefold value is given to the distance percentage and a twofold value to the near percentage. Thus, if the visual efficiency for near vision is 40 per cent, and the visual efficiency for distance is 70 per cent, the efficiency of central visual acuity for the eye in question would be $\frac{(40 \times 2) + (70 \times 1)}{3} = \frac{150}{3} = 50$ per cent visual acuity efficiency.

The best central visual acuity obtainable with correcting glasses is used in determining the degree of visual efficiency, unless there is a difference of more than 4 diopters of spherical correction between the two eyes.

(*b*) The extent of the field of vision is determined by the use of a perimeter employing a white target which subtends an angle of 1 degree and an illumination of at least 3 foot candles. The arcs of field in the eight principal meridians are added and this number is divided by 420 (which is the sum of the arcs adopted as normal). This gives efficiency of the visual field of one eye in percentage.

5. Black, N. M.; Snell, A. C.; Patton, J., and Gradle, H. S.: Report of Committee on Compensation for Eye Injuries: Appraisal of Loss of Visual Efficiency—Standard Method Approved by the House of Delegates of the American Medical Association, Atlantic City, N. J., May 26, 1925; Tr. Sect. Ophth., A. M. A., 1925, p. 368; Report of Committee on Compensation for Eye Injuries, ibid. 1927, p. 370.

(*c*) Muscular function, especially as it concerns diplopia, is measured in all fields of binocular fixation. This is plotted on a standard chart which is divided empirically into twenty rectangles. Partial loss of muscular function is that proportional area which shows diplopia as indicated on the plotted chart compared with the area of the entire motor field. Diplopia involving the entire motor field causes a loss of coordinate visual efficiency equal to the loss of one eye; partial loss is proportionate.

The industrial visual efficiency of one eye is determined by obtaining the product of the computed efficiency in (*a*) visual acuity, (*b*) field of vision and (*c*) muscular function. Thus if the efficiency of central visual acuity is 40 per cent, that of the visual field 81 per cent and the efficiency of muscular function 100 per cent, the resultant visual efficiency of the eye is $0.40 \times 0.81 \times 1.00 = 32.4$ per cent. Should diplopia be present in part of the motor field so that the motor efficiency is reduced 50 per cent, the visual efficiency would be: $0.40 \times 0.81 \times 0.50 = 16.2$ per cent.

The visual efficiency of a person is not reduced to one half by the complete loss of one eye, vision in the fellow eye remaining normal. The committee therefore adopted a weighing factor of 3 applied to the more efficient eye. This gives a practical appraisal of disability which is in substantial agreement with the consensus of technical judgment.

The industrial efficiency of a person is computed as follows: To the percentage figure which has been determined as the industrial visual efficiency of the less efficient of the two eyes, three times the percentage figure that has been determined for the more efficient eye is added; the result is divided by 4. The quotient is the industrial visual efficiency of the person in percentage.

Thus, if the individual efficiency of the injured eye is 40 per cent and that of the fellow eye is 100 per cent, the visual efficiency of the person will be

$$\frac{(40 \times 1) + (100 \times 3)}{4} = \frac{340}{4} = 85 \text{ per cent.}$$

When it is needed, it is therefore possible to make a fair estimate of visual efficiency in percentage. However, this requires a thorough examination by an ophthalmologist, which is both impracticable and unnecessary as a routine procedure in industry. A standardized visual examination is needed which will assure the necessary visual efficiency for the job. In addition, practically all industrial compensation codes provide that deduction from compensation shall be made for preexisting subnormal vision in case of additional loss.

In case there is no record of preexisting subnormal vision, it is assumed that visual efficiency prior to the injury was 100 per cent. It is imperative that every person employed in industry have his visual acuity for distance tested on a Snellen chart at 20 feet with and without his correction, and that a permanent record of this be made. Kuhn criticized the Snellen test because it is often made improperly at the wrong distance, with dirty cards and with poor illumination and because workmen often memorize the cards while standing in line for the test. These are sound criticisms, but the shortcomings can all be corrected. It is important that the record be accurate. There should be three or four clean charts which are interchanged to discourage memorization. There should be constant illumination by a fixed cabinet which provides 7 foot candles of illumination.

The distance should be exactly 20 feet (6 meters). If applicants are examined *en masse*, they should be asked to read some of the lines backward.

The second test of visual acuity of almost universal application is the test of reading vision. Most of the work in a modern assembly line is at close range, and a direct test of near vision is essential. The simplest and best method of testing near vision is with an ordinary reading card with glasses. The smallest type that can be read and the greatest distance at which it can be read are recorded.

There can be little argument over the importance of testing the distant and near visual acuity of all applicants for employment and keeping permanent records on employees. The use of these records and the decision as to more complete examinations require a fine judgment on the part of the medical examiner. The thoughtless examiner loses many efficient men by turning away every person who has not perfect visual acuity (one out of four), and the relief rolls are augmented by the numbers thus thrown needlessly out of employment.

Applicants with defective vision should be advised to have a complete ophthalmologic examination. This expense should be borne by the applicant, but a report of the examination should go into the files of the employer. If the applicant has a visual defect due to the need of glasses, properly fitted glasses will protect his eyes and increase his efficiency. If the defect is due to an active disease of the eye, discovery and treatment may restore good vision. If the defect is a permanent but not progressive disability, a proper evaluation of the type of defective vision may place expert mechanics in proper employment without handicap.

This problem should be met fairly, not disregarded or exaggerated. A few examples should be considered. Strabismus is accompanied by suppression of the central vision in one eye. An applicant often fails the Snellen test with this eye. But this is not a blind eye. There may be a normal field of vision. If the other eye should be lost, the suppression of central vision in this eye will probably be overcome. Strabismic patients have good orientation, though they do not have fine depth perception. They do not get caught in fast-moving machinery because of this defect in their eyes. They cannot become aviators because they lack stereopsis. They are not particularly fitted to become salesmen because of the cosmetic defect, but their eyes do not handicap them in most occupations. There are many competent workmen with crossed eyes, and there are also many men who cannot get past the rules in black and white of the employment offices and have been refused employment as common laborers because of the defect.

On the other hand, an eye may deviate because it is blind or diseased. The employer who hires a man with such a condition should know of it. No employee with only one eye to risk should be exposed to flying particles, even with goggles.

A prime essential of efficiency in industry is to know the visual status of the employees and take this into consideration in placement.

A test of visual acuity for distance and near misses a great many ocular defects. Every one recognizes that an examination testing also color perception, depth perception, muscular balance and visual fields and a fundal examination would reveal important pathologic conditions. This is neither essential nor practicable as a routine procedure. Nevertheless, several attempts have been made to provide further information without time-consuming examinations, usually with some specific problem in mind. For instance, railroad ophthalmologists have long used plus 1.50 spheres to screen out high hyperopia. If the young applicant is able to read 20/20 with plus 1.50 spheres, he will soon be wearing glasses. Since this is considered undesirable in railroad engineers, such applicants have been ruled out.

The Massachusetts vision test has been developed by Sloane [6] recently for the mass testing of school children by nonprofessional persons. It includes a plus 1.50 sphere test and an ingenious, simple application of the Maddox rod test for muscular imbalance in addition to tests for visual acuity.

There may be some application of the new instrument developed by Ferree and Rand [7] in the testing of vocational fitness in cases in which the dynamic speed of vision is an important requirement.

Kuhn has conducted a large series of industrial examinations with stereoscopic tests for acuity, depth perception, color vision and muscular balance and has pointed out the necessity for some standardization of these procedures for industry.

From these experiments it is apparent that there is a real and growing need for screening tests to sort out quickly those needing an ophthalmologic examination. These tests can be administered by industrial nurses if they are thoroughly trained and do not attempt to pass judgment on the basis of the tests.

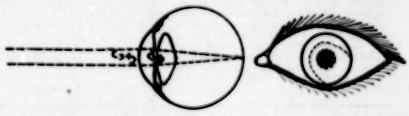

Fig. 2.—The visual zones of the cornea: *A*, diagram to show that the zone of the cornea concerned with central vision is proportional to the size of the pupil and about 12 per cent larger in diameter. *B*, representation, by broken lines, of the central and perimetric zones of the cornea, with a 3 mm. pupil.

An interesting study of the production of eyestrain by different occupations was made by Dr. George Gould.[8] He found some occupations consistently productive of eyestrain and was able to classify occupations on the basis of the incidence of eyestrain. He found 40 per cent of persons in occupations which induce eyestrain in less than 20 per cent, 10 per cent in occupations which induce eyestrain in 20 to 40 per cent, another 10 per cent in occupations with an incidence of 40 to 60 per cent asthenopia, 20 per cent in occupations with eyestrain in 60 to 80 per cent and a final 20 per cent in occupations which induce eyestrain in 80 to 100 per cent (table 3).

Obviously here is a sound basis on which to plan the ocular examination of applicants. Certainly persons with defective vision should not be placed in those occupations known to tax the eyes.

A committee is urgently needed to work out a standard set of visual requirements for employment which the industrial physician can use as a basis for judicious application to his own particular problems. There is no common basis for decisions in these matters, and there is as much difference in visual standards in two plants as there is in the individual plant physicians.

6. Sloane, A. E.: Massachusetts Vision Test, Arch. Ophth. **24**: 924 (Nov.) 1940.
7. Ferree, C. E., and Rand, G.: Pilot Fitness: A Safety Factor in Aviation, Brit. J. Ophth. **24**: 581 (Dec.) 1940.
8. Gould, G. M.: Eyestrain and Its Relation to Occupation, Am. J. Physiol. Optics **1**: 15 (Jan.) 1920.

Certainly the final application of the principles to the problems of the individual plant must be decided by the physician in charge of the medical departments.

There have been many attempts to standardize these requirements in large companies. There are bizarre

TABLE 3.—*Classification of Various Occupations According to Frequency of Eyestrain* *

	Percentage of People in Each Group	Percentage with Eyestrain
Group 1 Hunters, lumbermen, fishermen, sailors, agricultural laborers, common laborers, soldiers, draymen, policemen, firemen, construction workers, stationary and locomotive firemen and engineers and others	40	1-20
Group 2 Hotel employees, civil, mechanical and electrical engineers, domestic servants, roofers, carpenters, jointers, cement workers, butchers, marble workers and others	10	20-40
Group 3 Masons, stone cutters, printers, plumbers, machinists, plasterers, foundrymen, structural iron workers, blacksmiths and others	10	40-60
Group 4 Housewives, bakers, leather goods workers, hat, glove and garment makers, textile workers, chemists, musicians, telegraphers, miners, pupils of private and public schools (below high school), and tool and cutlery workers	20	60-80
Group 5 Students of high school and colleges, clergymen, lawyers, commercial clerks, wood carvers, journalists, authors, teachers, barbers, stenographers, draftsmen, physicians, jewelry and watch makers, bookkeepers, dentists, telephonists, engravers, cigar makers, glass blowers, tailors, prooftraders, diamond cutters and others	20	80-100

* Condensed from data compiled by Gould.[3]

rules in some codes which show lack of serious consideration of visual efficiency. I quote from one code, as requirements of visual acuity for outdoor workers: "20/40 in one eye, 20/70 in the other eye, correctible to 20/30 in one eye and 20/40 in the other." Here are four arbitrary standards. Failure in any one respect disqualifies the applicant. The question naturally arises as to what outdoor work cannot be done by a one-eyed man or a man with 1 diopter of myopia. The suggested employment for these men, according to the code cited, is that of locker room attendant or cloak room attendant. I can conceive of situations in which this type of rule will create maladjustments rather than correct them.

The answer to the problem lies in a schedule which should be evolved after careful study of the requirements of various occupations by a group of ophthalmologists. The type of schedule which such a committee might evolve is shown in table 4.

TENTATIVE SCHEDULE OF OCULAR REQUIREMENTS FOR VARIOUS OCCUPATIONS

It will be noted that ophthalmoscopy and perimetry have been omitted as routine procedures. A few serious ocular defects will certainly be missed with such a routine, although these should not affect the efficiency of the employee unless they affect the functions tested. The routine examination should be such that an intelligent nurse can be trained to collect the data. This may be desirable even in large plants, as the tests are time-consuming if properly given, and care is more important than judgment. However, the judgment of the physician in charge is important in evaluating the data for placement of employees, and this should not be bound too rigidly by any rules.

The suggested standards are for the best vision obtainable with glasses, as in the American Medical Association standards of visual efficiency for industrial compensation. There may be a few occupations in which glasses constitute a handicap, but these are certainly the exception rather than the rule. There can be little justification for setting up visual requirements without glasses, except in unusual circumstances. Certainly the man who is highly dependent on his glasses should be required to have a spare pair in case of breakage, but he should not be kept out of employment because of this fact. Of what value are visual requirements without glasses for an occupation that requires the wearing of goggles?

In most cases, the visual acuity without glasses is necessary only as a matter of record. This is necessary because of the absurdities in many state industrial laws. For example, the Industrial Commission of the State of Ohio, having set up the visual efficiency schedule of the American Medical Association as a standard for disability claims, nullified the equitable basis of this schedule by specifying that compensation be based on uncorrected vision, or vision without glasses, unless the employer can produce a record of previous deficiency in vision. Without records, this adds an unknown quantity to a finely evaluated equation and so reduces

TABLE 4.—*Tentative Schedule of Ocular Requirements for Various Occupations*

Class	Ocular Requirements	Suggested Examination	Minimum Requirements of Visual Efficiency
1. Outdoor laborers	Orientation	Visual acuity	With glasses, 20/100 in one eye and nil in the other, or visual efficiency of 30 per cent (suggested standard)
2. Craftsmen, mechanics, carpenters, workers on assembly line but not workers on rapidly moving tools	Moderately good vision for intermediate distance	Visual acuity for distant and near objects	20/50 in one eye with glasses and nil in the other, 50 per cent visual efficiency (suggested standard)
3. Workers on rapidly moving tools	Moderately good vision, depth perception	Visual acuity for distant and near objects; stereopsis test; muscular balance	20/40 in each eye or 81.6 per cent visual efficiency, and 50 per cent stereopsis (?)
4. Operators of motor-driven machines, such as crane operators	Good orientation at a distance	Visual acuity, distant and near; stereopsis; muscular balance; color vision	20/40 in each eye, 50 per cent stereopsis (?); less than 5° horizontal or 3° vertical muscular imbalance, with glasses; (81.6 per cent visual efficiency)
5. Those engaged in discriminating, close work	Good vision and stereopsis; considerable reserve because of constant, close application	Visual acuity, distant and near; stereopsis; muscular balance	20/30 in each eye with glasses; 50 per cent stereopsis; less than 5° horizontal or 3° vertical muscular imbalance with glasses (91.5 per cent visual efficiency)

these estimates to a parody of justice. The explanation offered for this procedure is that the replacement of broken glasses was becoming an excessive burden on the commission. They therefore discontinued replacement of broken glasses. The commission was set up to provide medical care and compensation for industrial injuries. There is, in fact, no more reason for replac-

ing broken glasses than there is for replacing pants torn on the job. This is simply a matter of the coverage which the industrial insurance affords. It is not necessary to pretend that refractive errors do not affect visual efficiency. The man who breaks his glasses still has to pay for them, even if the commission decides to compensate another person for a disability or a degree of disability which he did not suffer. This is unfair to those employees who are forced to wear glasses after an injury and are not compensated for the defect. It also imposes a greater and more serious injustice on the employer.

For example, E. G. had a visual acuity of 6/60 in each eye. The employer before hiring him insisted on an ophthalmic examination. He obtained normal vision with glasses. However, he sustained an injury to his left eye which left a small corneal scar. His vision after the accident was 6/60 in the right eye and 3/60 in the left eye. Now the American Medical Association standards were devised to show defects on the basis of the best vision obtainable with glasses. Since the industrial commission disregards glasses, this employee had a disability of 96.7 per cent unless the employer could produce a record to prove preexisting disability. Fortunately, the employer could do that, and the patient produced his glasses. He still had a defect of 30 per cent in the injured eye and received some $800 compensation, whereas, in fact, after a period of discomfort he had his eyes refracted himself and with an outlay of $20 has no visual defect at all.

The employer has no defense against this unjust ruling except for the partial protection of his records and the possibility that concerted action by physicians and employers might abolish this perversion of justice.

In this connection, Snell[9] stated "There is no logical ground for any compensation law to specify that the loss of vision should be determined without the aid of glasses, and it is unwise to make any compromise about their use in estimating the visual loss after an eye injury. The statutes of all states should specify, as the majority do, that visual efficiency shall always be determined, with the use of corrective lenses."

TABLE 5.—*Summary of State Compensation Laws Relative to Visual Disability*[*]

State	Date of Last Revison	Loss of Both Eyes	Loss of One Eye		Partial Loss Determined			
			With Enucleation	Without Enucleation	Without Glasses	With Glasses	With and Without Glasses	A. M. A. Standards‡
Alabama	1936	55% - P. T.†	55% - 100 weeks	.....	..	+	..	0
Alaska	1937	$7,200	$2,160-$2,880	.....	No law	No law	..	0
Arkansas	....	No law	.....	.....	..	..	..	..
Arizona	1933	65% (av.) - P. T.	55% - 120 weeks	100 weeks	..	+	..	0
California	1935	65% - P. T.	No law	.....	..	..	..	+
Colorado	1935	50% - P. T.	50% - 133 weeks	101 weeks	+	..	..	mod.
Connecticut	1937	50% - 520 weeks	50% - 208 weeks	.....	..	+	..	0
Delaware	1937	50% - 475 weeks	50% - 115 weeks	.....	..	+	..	0
District of Columbia	1934	66⅔% - P. T.	66⅔% - 140 weeks	.....	..	+	..	0
Florida	1937	50% - 350 weeks	50% - 100 weeks	.....	..	+	..	+
Georgia	1937	50% - 350 weeks	50% - 100 weeks	+	+	..	..	0
Idaho	1937	55% - 450 weeks	55% - 140 weeks	120 weeks	+	..	..	0
Illinois	1936	50% - P. T.	50% - 120 weeks	.....	+	..	..	mod.
Indiana	1937	55% - 500 weeks	55% - 150 weeks	.....	..	+	..	0
Iowa	1937	60% - P. T.	60% - 100 weeks	.....	..	+	..	0
Kansas	1931	60% - 416 weeks	60% - 110 weeks	.....	+	..	..	mod.
Kentucky	1937	65% - 416 weeks ($6,000)	65% - 100 weeks	.....	+	..	..	0
Louisiana	1936	65% - 400 weeks	65% - 100 weeks	.....	No law	No law	..	0
Maine	1931	66⅔% - 500 weeks ($6,000)	66⅔% - 100 weeks	.....	..	+	..	+
Maryland	1937	66⅔% - $6,000	66⅔% - 100 weeks	.....	+	..	..	0
Massachusetts	1937	66⅔% - 500 weeks ($4,500)	50% - $4,500	.....	..	+	..	0
Michigan	1937	66⅔% - 500 weeks ($6,000)	66⅔% - 100 weeks	.....	..	+	..	0
Minnesota	1937	66⅔% - $10,000	66⅔% - 100 weeks	.....	+	..	..	0
Missouri	1931	66⅔% - 500 weeks	66⅔% - 118 weeks	208 weeks	+	..	..	0
Montana	1937	55% - P. T.	66⅔% - 120 weeks	100 weeks	..	+	..	0
Nebraska	1937	66⅔% - 100 weeks 45% - P. T.	50% - 120 weeks	100 weeks	..	+	..	0
Nevada	1936	66⅔% - P. T.	50% - 120 weeks	100 weeks	+	..	..	0
New Hampshire	1937	No law	.....	.....	..	..	..	0
New Jersey	1936	66⅔% - 400 weeks	66⅔% - 100 weeks	.....	..	+	..	0
New Mexico	1937	66⅔% - 550 weeks	66⅔% - 125 weeks	110 weeks	..	+	..	0
New York	1937	66⅔% - P. T.	66⅔% - 100 weeks	100 weeks	..	+	..	0
North Carolina	1935	66⅔% - 400 weeks ($6,000)	66⅔% - 100 weeks	.....	+	..	..	mod.
North Dakota	1935	66⅔% - P. T. ($15,000)	66⅔% - 100 weeks ($1,000)	.....	..	..	+	+
Ohio	1935	66⅔% - P. T.	66⅔% - 125 weeks	.....	..	..	..	mod.
Oklahoma	1935	66⅔% - 500 weeks	66⅔% - 100 weeks	.....	..	+	..	+
Oregon	1937	$30-$35 mo. P. T.	$1,000	.....	..	..	+	+
Pennsylvania	1936	66⅔% - 500 weeks	66⅔% - 125 weeks	.....	..	+	..	0
Rhode Island	1937	50% - 150 weeks ($10,000)	50% - 80 weeks	.....	..	+	..	0
South Carolina	1937	66⅔% - 500 weeks	66⅔% - 100 weeks	.....	..	+	..	0
South Dakota	1933	55% - 312 weeks	55% - 100 weeks	.....	..	+	..	0
Tennessee	1933	50% to max.	50% - 100 weeks	.....	..	+	..	0
Texas	1937	66⅔% - 401 weeks	66⅔% - 100 weeks	.....	..	+	..	0
Utah	1937	66⅔% - 300 weeks 45% - P. T.	66⅔% - 120 weeks	100 weeks	+	..	..	0
Vermont	1937	50% - 300 weeks	50% - 100 weeks	.....	..	..	+	0
Virginia	1936	55% - 500 weeks	55% - 100 weeks	.....	+	..	..	0
Washington	1933	$25-$45 mo. P. T.	$1,440	$1,080	..	+	..	+
West Virginia	1937	66⅔% - P. T.	66⅔% - 132 weeks	.....	..	+	..	0
Wisconsin	1937	70% - P. T.	70% - 275 weeks	250 weeks	..	..	+	+
Wyoming	1935	$4,000	$1,800	.....	..	+	..	0
United States	....	.....	.....	.....	..	..	+	+

[*] From material compiled by Dr. Albert C. Snell, Rochester, N. Y.
† P. T. indicates percentage of average weekly wage paid for life or for number of weeks indicated, or until sum indicated has been paid.
‡ 0, no; +, yes; mod., modified.

9. Snell, A. C.: Treatise on Medicolegal Ophthalmology, St. Louis, C. V. Mosby Company, 1940, pp. 267-276.

Yet fourteen states, Colorado, Georgia, Idaho, Illinois, Kansas, Kentucky, Maryland, Minnesota, Missouri, Nevada, North Carolina, Ohio, Utah and Virginia, require that the tests for visual disability be made without glasses, and four, North Dakota, Oregon, Vermont and Wisconsin, have a compromise provision, which strikes an average between corrected and uncorrected vision (table 5).

INDUSTRIAL COMPENSATION LAWS

Snell [9] summarized the present legal status of industrial ocular disabilities effectively in "Medicolegal Ophthalmology." I quote excerpts from his text:

> The general objective of compensation laws has been to provide money awards for workmen who sustain injury, either in the course of their employment or arising out of it, without regard to fault. . . . The present laws, in a very large measure, have accomplished these worthy objectives. . . . Nevertheless these laws may be criticized on the ground that they contain unfair, partial, inconsistent, and illogical rules and decisions. . . . There is injustice when identical provisions in the statutes of two or more states are interpreted as having different meanings so that identical degrees of visual disability are held to be much more serious in one state than in another, with the difference at times amounting to as much as 400 per cent. . . . That these statutes were loosely drawn and faulty is evident from the fact that there have been controversy and litigation over nearly every provision, and generally it has been necessary to have recourse to the highest court of each state for interpretation. Furthermore, all of the original state statutes have had many amendments demonstrating the need for revision to correct earlier imperfections. Much of this litigation and the necessity for amendments of most compensation laws have been due to a lack of explicit phraseology, which careful drafting could correct.
>
> The faults in the compensation laws, as far as visual disabilities are concerned, and the faults of their administration lie for the most part in the following circumstances: (1) a failure to comprehend the meaning of the test for visual acuity; (2) the failure to define the use of such ambiguous terms as "loss of an eye," or "loss of use of one eye"; (3) failure in the determination of a percentage loss of use when statutes provide that awards shall be made on the basis of a proportionate loss; (4) failure to comprehend the importance of and the necessity for the use of correcting lenses to correct refractive errors; (5) the failure to recognize and to give due consideration to visual defects existing prior to industrial injury.

It is urged that an official committee be appointed by the chairman of the Section on Ophthalmology to draft a schedule of standard visual requirements to be used as a yardstick by industrial physicians, and it is suggested that this committee might continue the splendid work carried on by the committee on compensation for injuries of the eye, offering technical advice with the purpose of improving the equity of industrial compensation laws.

SEQUELAE OF INJURIES TO THE CORNEA

Foreign bodies embedded in the cornea are among the most common industrial injuries. Infection of these wounds may lead to serious loss of vision. Fortunately with prompt and proper treatment this is rare. However, if Bowman's membrane is broken, some permanent scarring of the cornea results. This scarring may affect vision through (*a*) actual interference with vision, (*b*) distortion of the cornea, producing a change in refraction and (*c*) dazzling sensations due to dispersion of light by the scar. Furthermore, a latent refractive error may become more manifest after an injury and produce asthenopia not present previously.

(*a*) Actual interference with vision by corneal scars depends somewhat on refractive error, the alpha angle, the size of the pupil, the depth of the anterior chamber and the state of accommodation. Calculations based on Gullstrand's schematic eye are substantially confirmed by clinical experience. A bundle of parallel rays of light approximately 12 per cent larger than the pupil and striking the optic zone of the cornea will be focused on the macula. This bundle is about 3.4 mm. in diameter for a 3 mm. pupil. Therefore the patient will be conscious of any scar in this zone. Actually, if the scar is sharply demarcated and superficial enough so that it does not produce an astigmatism which cannot be corrected with glasses it is often possible to obtain normal visual acuity even with the loss of the refractive power of a portion of this zone.

Scars in the cornea outside the optic zone may be in the field of vision. Because of the lower acuity of the peripheral retina, they do not usually obtrude themselves on consciousness. However, tests with 0.5 mm. paper disks placed on the cornea show that with a pupil as large as 4 mm. in diameter the perimetric zone of the cornea extends to the limbus temporally and below, and within 2 mm. of the limbus mesially and 3 mm. above. Dense scars in the perimetric zone affect the visual field (fig. 2).

(*b*) Distortion of the cornea by scars may result in an astigmatism in the optic zone. The induced astigmatism is usually in the opposite axis from the scar which produces it. Corneal scars smooth down a great deal in a few months, and astigmatism induced by them decreases gradually in time. Scars that invade the stroma no more than a third of the thickness rarely produce permanent astigmatism.

(*c*) Dazzling sensations and photophobia may be produced by the dispersion of light from a scar in any part of the cornea. A scar near the center of the cornea is more likely to produce these troublesome symptoms. As the scar fades with time, these symptoms usually disappear. A mild miotic to keep the pupil contracted during this interval is the best treatment. Dark glasses are ineffective, as they allow some dilatation of the pupil and increased dispersion of light into the fundus.

One of the most common problems that the industrial physician must face is presented by those persons who evince symptoms of eyestrain after a trivial injury of the eye. It must be borne in mind that comfortable vision depends on a delicate synchronization of optic, physiologic and psychologic factors. Even a minor injury may upset this balance. Of course if the patient has only a slight refractive error his asthenopia is only temporary and he will be able to build up his balance again in a few weeks. Those persons who need to wear glasses after an injury to the cornea have had a latent refractive error which would have become manifest in time without the accident. In these cases the injury is only a precipitating factor. This is a much more common train of events than actual astigmatism induced by the scar. An analogy is often useful in explaining this to workmen who believe that the injury is the sole cause of their symptoms. A person may be able to lift a hundred pounds before an attack of pneumonia. His inability to do this when he returns to work after his convalescence does not mean that his muscles are scarred or paralyzed but that they are weak from disuse. After an injury the muscles of the eye may be unable or unwilling to accommodate for a refractive error which they handled without complaint previously.

OTHER FACTORS AFFECTING INDUSTRIAL VISUAL EFFICIENCY

1. *Illumination.*—Obviously a man cannot do good work unless he sees it easily. It is practically impossible to have too great illumination from an artificial source. The magnitude of the adaptation that the eye is forced to make under artificial illumination is better appreciated when it is realized that the intensity of light outdoors on an ordinary sunny day is about five hundred times as great as the highest practicable intensities of artificial illumination. Three factors must be considered in lighting an establishment: (1) the amount of light, (2) the distribution of light and (3) the diffusion of light. These factors have been worked out scientifically by illumination engineers. Since most establishments have illumination far below the most efficient levels, many public utility companies are glad to correct problems of illumination. I wish only to emphasize that glare is one of the most annoying and insidious causes of eyestrain and loss of efficiency in any kind of work in artificial illumination.

2. *Goggles.*—The prevention of injury to the eyes is the best protection against loss of time and money. Flying particles from abrasive wheels and metal-working machines constitute the principal hazard to the eyes in industry, as it is illustrated by the analysis made by the National Bureau of Casualty and Surety Underwriters[10] (table 6). Industrial physicians are familiar with the importance of providing goggles for protection against flying particles, dust and injurious radiations and have made a study of the varieties best adapted to their special problems. But making goggles available is not enough. Goggles are bothersome, and a workman does not feel the chip of steel that strikes his neighbor's eye. It is necessary to have a definite program for seeing that the men use the safety factors placed at their disposal.

This should include an educational program with posters and placards posted at every hazardous device. The danger to the observer of watching a welder or cutter at work should be stressed. When a serious ocular injury has been prevented by goggles or a mask, this should receive publicity. A photograph of the workman can be posted on the bulletin board with this notice: "If you know this man, ask him how it happened." Safety slogans should be used such as:

1. We once knew a man who couldn't see the need for wearing goggles—now he can't see the goggles.
2. Eyelids are nature's eye protectors, but they are not built to stand iron or concrete chips.
3. Ask the blind man—he knows.
4. The light of the whole world died in a shower of sparks.
5. What would you take for your eyes? Think it over.
6. Goggles are to protect your eyes, not your cap.
7. Let your goggles take the punishment, not your eyes.
8. You can see through glass goggles. You can't see through glass eyes.
9. Two good eyes are all you'll ever get—save them.
10. If you are wise you will protect your eyes.

The foremen on hazardous jobs, such as those in which abrasive wheels are used, know the psychology of their workmen and which ones can be sold on goggles by logic and which ones need threats of being discharged.

A good plan is to convince the most popular or most talkative of the group of the importance of goggles and give him the responsibility of convincing the other men. The best single inducement for wearing goggles, after an educational program, is an iron-clad rule of suspension for ten days for failure to use them.

Complaints about goggles should be handled patiently and intelligently. Headaches from goggles are usually due to pressure on the nose or face and are relieved by adjustment of the front or the head band.

Perspiration fogging the glasses can be relieved to some extent by sweat bands, glycerin pencils or specially prepared soaps.

If the men complain of their being too hot or too cold, goggles of heat-insulating material can be provided.

The fear that the goggles will break can be met by the explanation that they are made to withstand heavy blows and possibly by a demonstration of their capacity to take it.

Goggles are likely to be uncomfortable. There should be some one in the plant competent and patient enough to adjust them so that the men can wear them without being continuously conscious of them.

TABLE 6.—*Causes of Industrial Eye Accidents* *

	Number	Percentage
Abrasive wheels	10,210	31.1
Metal working machines	4,079	12.4
Portable power tools	1,527	4.7
Woodworking machines	343	1.0
Polishers	161	0.5
Welding machines	140	0.4
Other flying particles	9,701	29.6
Chips from tools	3,579	10.9
Burns	1,628	5.0
All others	1,455	4.4
Total	32,825	100.0

* Condensed from data compiled by the National Bureau of Casualty and Surety Underwriters.[10]

SUMMARY

1. A record of visual acuity, with and without glasses, of all industrial employees is important.

2. The establishment of minimum standards of visual efficiency for various occupations is necessary. It is urged that the American Medical Association appoint a committee for the study of this problem and the proposal of a schedule of minimum requirements for industrial physicians to use as a yardstick.

3. Injustices in state compensation laws are flagrant. It is also urged that the committee just mentioned provide technical advice and propaganda in an attempt to correct faulty legislation.

4. The common sequelae of injuries to the cornea are (*a*) actual interference with vision, (*b*) distortion of the cornea producing a change in refraction and (*c*) dazzling sensations due to dispersion of light by scar tissue. A latent refractive error may become more manifest after an injury and produce asthenopia not present previously.

5. The conservation of eyesight in industry depends on (1) testing the vision of applicants, (2) examination of the eyes of those having defective vision, (3) proper placement of workers with defective vision, (4) proper illumination without glare, (5) education of employees in regard to hazards to the eye, (6) protection of eyes in hazardous jobs and (7) prompt treatment for ocular injuries.

209 South Main Street.

10. National Bureau of Casualty and Surety Underwriters: Causes and Costs of Industrial Eye Injuries in the United States, Monthly Labor Rev., March 1923, p. 110.

INDUSTRIAL INJURIES TO THE EYE

ESSENTIALS OF FIRST AID AND LATER MANAGEMENT

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AND
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The physician who attends an industrial patient with an injured eye assumes a quadruple responsibility—to the patient, to the patient's employer, to the insurance carrier and to himself. Fortunately these interests are not antagonistic and can all be considered at once. Whatever affords the patient the quickest recovery with the least specific visual loss will also return him to work in the shortest time and reduce the insurance carrier's expense. By the same token, errors in judgment are expensive to the patient, the employer, the insurance carrier and, in the long run, the physician.

Although protection of the workman's eyes is to be discussed in another paper in this symposium, certain principles cannot be reiterated too frequently. Whenever it is possible to do so, rotating machinery should be shielded. An alert safety man can often erect shatterproof glass shields even on such machines as lathes and milling machines without slowing the production of either machine or workman. Emery wheels, scratch brushes and buffers should always be shielded, and the workmen should be taught never to stand in the plane of rotation while the wheel is in motion. Chisels, drifts or other tools which must be struck with a hammer must be kept properly ground, as the chips from a mushroomed tool are among the most common causes of industrial blindness. Above all, each man in the plant should be provided with goggles adapted to the hazards he faces and to his particular refractive requirements. The common practice of providing one pair of goggles to be passed about by the various men using grinding wheels must be vigorously condemned.

No physician caring for injuries to the eye should attempt to make an examination of the external eye without a corneal loupe, a lens for focal illumination and, if possible, a spring lid retractor. It is essential that in all cases of injury to the eye, no matter how trivial they may appear, tests of visual acuity should be made before one proceeds with any examination, and that of the injured eye should be determined first. If the eye is painful and there is a blepharospasm a drop of a local anesthetic may be used and the acuity checked after the spasm has been relieved. The test should be made both with and without the patient's glasses, if these are worn.

In many cases focal infections influence the course and outcome of injuries to the eye; in fact, trivial corneal lacerations will occasionally end disastrously on this account. For this reason it is always wise to make a rapid survey of the teeth and tonsils and to note their condition at the time of the initial examination.

In our series of more than 100,000 cases of industrial injuries of the eye, foreign bodies have been the causative agent in 48 per cent. These range in seriousness from the dust particle which has blown into the eye, through emery burns and chips of concrete to nails, cotter pins and other fragments of steel penetrating the eye and, largest of all, a full quarter of a 4 by ½ inch (105 by 12 mm.) emery wheel which weighed 3¼ ounces (50 Gm.) and which had passed through the patient's eye to lodge in the region of the sphenoid sinus, perforating into the cranial cavity. Some figures from our 1939 file are given in the accompanying table.

Almost any local anesthetic may be used for the removal of foreign material in the cornea or conjunctiva, but the effect should be maximal, as examination and subsequent procedures are more easily carried out if the patient is comfortable. Large foreign bodies are readily seen, but small ones are often overlooked, especially when the irises are brown. Under such circumstances a 1 per cent solution of fluorescein instilled into the eye and thoroughly rinsed out is of great value, as it stains the smallest laceration and often discloses an otherwise invisible foreign body. It is also essential to ask the patient to look in the four cardinal directions so that the cornea may be examined at a tangent. This frequently reveals foreign bodies or lacerations which would not be seen directly.

In our series 54 per cent of the foreign bodies striking the cornea have been hot, leaving a burn when the foreign body has been removed. This burned tissue should be drilled out with an ordinary round dental burr from 0.75 to 1 mm. in diameter mounted in a

Fifteen Hundred Consecutive Cases of Ocular Injuries from the 1939 File

	Number	Per Cent	Total Number	Total Per Cent
Lesions due to mechanical agents				
Foreign body	333	22.200		
Burn from foreign body	181	12.067		
Lacerations of cornea	161	10.733		
Lacerations of conjunctiva	18	1.200		
Secondary ulcers	88			
Secondary ulcers with hypopyon	3	91	6.060	
Perforating wounds				
Cornea	15			
Prolapse of iris	6			
Traumatic cataract	17			
Intraocular steel	13			
Siderosis	3	55	3.666	
Old scars of cornea		42	2.800	
Old injuries of eyeball		11	0.733	
Subconjunctival hemorrhage		34	2.276	
Orbital injuries		33	2.200	
Other conditions				
Contusion	13			
Hyphemia	7			
Phthisis	2			
Ectopia lentis	2	24	1.600	983 65.533
Eyes which required enucleation		5	0.333	
Lesions due to chemical or physical agents				
Chemical conjunctivitis		15	1.000	
Chemical burns		57	3.800	
Thermal burns		26	1.733	98 6.533
Lesions of questionable origin (doubtful compensability)				
Conjunctivitis		163	10.866	
No demonstrable disorder		82	5.466	
Inflammatory reaction only		69	4.600	
Refractive error or presbyopia		38	2.533	
Iritis		19	1.266	
Muscular imbalance		10	0.666	381 25.400
Lesions of systemic or bacterial origin (not compensable)				
Chalazion		25	1.666	
Trophic and dendritic ulcers		19	1.266	
Hordeolum		18	1.200	
Pterygium		17	1.133	
Cataract (all except 17 traumatic)		16	1.066	
Pinguecula		11	0.733	
Retinal disorder				
Optic atrophy	8			
Macular atrophy	8			
Retinal hemorrhage	4			
Retinal detachment	4			
Choroiditis	3	27	1.800	
Amblyopia ex anopsia		6	0.400	
Miscellaneous				
Keratitis	4			
Blepharitis	3			
Keratoconus	1			
Glaucoma	1			
Trachoma	1			
Herpes	1			
Cellulitis	1	12	0.800	151 10.066
Total number of pathologic conditions in the 1,500 cases			1,615	

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simple handle, since if it is not completely removed ulceration is likely to result.

Spots of pigment in the iris are often mistaken for corneal foreign bodies or burns by general practitioners, and bad lacerations follow attempts to remove them. Deeply embedded foreign bodies should not be touched before the patient is referred to the local oculist, because of the danger of converting a simple wound into one which penetrates into the eyeball. If the foreign material cannot be secured in three or four attempts the patient should be referred before further damage is done.

If the cornea has been involved more deeply than the epithelial layer, a 1 per cent solution of either homatropine or atropine sulfate should be instilled to put the eye at rest. In our experience there has been no instance in which the use of atropine has resulted in an attack of acute primary glaucoma. We feel that even if this were to happen the fact that the eye is kept under observation should offset the danger. A drop of mercurochrome (in 1 per cent solution) will provide adequate antisepsis in most cases. Under no circumstances should the eye be bandaged or a patch be applied. We have found that a cover of any sort tends to dam up secretions, so that ulcers and other infections develop more readily.

If the tears are allowed to drain freely they will wash out any infectious material and diminish the danger of complications. The patient should be instructed to apply a towel moistened with plain warm water at home for from five to fifteen minutes, at least night and morning, both for the relief afforded during the period of acute irritation and for acceleration of the healing processes. Dark glasses from the dime store will control photophobia adequately if it is not possible to lend the patient optically ground shaded lenses.

The intraocular presence of particles of steel is often difficult for the experienced oculist to detect. Particles driven with sufficient force can, under certain conditions, enter the eyeball without leaving any external evidence. Therefore it is wise to remember that any patient who gives even a vague history of injury while pounding or using a lathe, boring mill or similar device may have a dangerous condition, and although there may be no apparent injury he should be referred to the oculist at once.

Burns of the eyeball from chemicals or heat are best treated by immediate, copious flushing with water or boric acid solution, followed by the administration of any bland oil or ophthalmic ointment. Carron oil is dangerous and should never be used near an eye. If the burn is at all severe, atropine ointment should be instilled and continuous warm, moist applications used until the pain has subsided. It is especially important never to bandage burned eyes, both because of the danger of symblepharon and because of the prolonged traumatic effect of chemicals or toxic products of damaged tissues when these are bound in intimate contact with the injured structures.

Deep lacerations or penetrating wounds of the eyeball should be seen by the oculist at once. The potentialities of such injuries are so grave that the plant physician has nothing whatever to gain and much to lose by attempting to treat them himself. A repair of a laceration in this region, which would be entirely satisfactory in other parts of the body, may well leave the patient conspicuously disfigured, while scars of the eyeball often distort it enough to cause serious impairment of vision.

There are many diseases of the eye which simulate conditions allegedly due to injury. In many instances diseases of the eye are claimed to have been aggravated by a trivial injury, and in some cases this may be true. Since litigation often follows these occurrences, it is better for every one concerned if, in all cases in which there is any question whatever, the patient is sent to the oculist. It is obvious that the earlier he sees the patient the better he is able to judge the situation fairly.

SUMMARY

1. It is important to determine the visual acuity at the time of the first visit, and in the injured eye first.

2. Injuries of the eye which appear trivial are often potentially dangerous, especially in the presence of focal infection.

3. The use of a mydriatic after removal from the cornea of foreign bodies or any injury to the cornea affords the patient comfort and expedites healing.

4. Bandages and patches tend to produce infection by damming up secretions and should not be used.

5. It is unwise for the general physician or surgeon to take chances. He should pass the responsibility on to the local oculist if there is doubt about any factor in a case.

6 North Michigan Avenue.

THE ECONOMIC IMPORTANCE OF VISUAL DISABILITY IN INDUSTRY

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Physicians are fortunate that they have in the American Medical Association a forum before which they can discuss some of the diverse and interesting problems in the field of the protection of life and the preservation of health in industry. The Council on Industrial Health has served, and no doubt will continue to serve, in directing the attention and efforts of an ever increasing number of physicians to the important problems of preventive medicine in industry. There begins to be a fuller realization of the importance of these problems to the medical profession, industry and the nation as a whole.

Under the chairmanship of Dr. Bartle, four phases of the problem of industrial ophthalmology are presented for consideration. The task set for me is an appraisal of the economic importance of visual disability in industry. Physicians are fortunate in having an opportunity to appraise this problem from several points of view and in this manner lay the groundwork for the next logical lines for the direction of their efforts.

It is with this point of view that an attempt is made to evaluate the problem of the economics of visual disability in industry. Is this one of magnitude and importance? What is the extent of the problem and what might be suggested as the logical approach to its solution? The answers to questions such as these should help dictate the next steps in the broad preventive program in which all are so deeply interested.

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Visual disability among workers may be considered to be composed essentially of two kinds: (1) that disability brought to industry by the worker at the time of his entrance into industry and (2) that disability produced in industry.

VISUAL DISABILITY BROUGHT TO INDUSTRY BY THE WORKER

It is hardly necessary to point out that a large proportion of the population do not have eyes normal in every respect. A large proportion of the population find it necessary to avail themselves of eye glasses in order to correct errors of refraction, and it is, of course, common knowledge among ophthalmologists that many persons suffer from defects of depth perception, color sense and muscular balance.

The recent studies of Dr. Hedwig S. Kuhn have added a great deal of valuable information to the knowledge in this field, with particular reference to industrial workers. As a result of some sixteen thousand examinations among workers in various industries in the central states, she found 22 per cent with muscular imbalance, 5 per cent with color blindness, 16 per cent with failure of depth perception and 12 per cent with uncorrectable refractive errors. Among five hundred and nine applicants for positions, she found approximately the same percentages of ocular defects as among the previously cited group of industrial workers.

Without entering into further detail concerning individual types of employees in specialized occupations, such as clerks as compared with factory workers—an analysis which is beyond the scope of this discussion—it is pertinent to cite one of Dr. Kuhn's major conclusions, namely that 15 per cent of the workers in industry have serious visual defects and require urgent attention to their eyes.

Recently Dr. Morris Davidson, of the New York State Department of Labor, presented an analysis of five years' records of ocular examinations among claimants for compensation in the state of New York. He concluded as a result of his study: "For the country as a whole, the potential industrial worker may bring with him into industry an eye capital about 30 per cent defective. One half of this burden is remediable by glasses. The other half is irremediable and constitutes true defective eyesight."

The results of the studies of Kuhn and Davidson are, for all practical purposes, in agreement and leave one with the fundamental conclusion that among the average run of workers entering industry one may expect approximately 15 per cent of serious visual defects which, without doubt, constitute a handicap to the industrial worker under certain conditions and are of economic importance in the conduct of certain types of industrial occupations.

It is exceedingly difficult to evaluate the financial aspects of this portion of the problem, and I believe for a long time to come it may remain so. But I think there can be no doubt in the minds of every one that in those industrial occupations requiring a high degree of visual acuity, a complete sense of depth perception, complete muscular balance or excellent color perception it is essential that proper examinations of the eyes be conducted and that efficient industrial placement be considered a part of the employment program of the plant.

VISUAL DISABILITY PRODUCED IN INDUSTRY

Visual disability associated with industry arises from two different sources—that produced by trauma and that associated with special types of visual application, for example close application to a field requiring fine discrimination.

The latter type of disability is exemplified in the data of Dr. Kuhn, who in a study of crane operators, clerks and hosiery loopers found that muscular imbalance, depth perception and uncorrectable poor acuity were highest in the last-mentioned group (looping requires the closest application), lowest among crane operators and between the two among clerks, who occupy an intermediate position. It is well recognized that in industry there is a certain amount of occupational selection, and this, without doubt, holds for the eye as well as for purely muscular effort. The "six foot two" man most often becomes a heavy worker while the "two foot six" man becomes a tailor. But neither this selection nor age distribution accounts for the visual defects observed to be associated with certain occupations.

It is difficult to estimate the economic importance of this fraction of the visual disability associated with industry. It has been included here at this time merely for the sake of completeness, although I have no doubt but that some one deeply interested in this aspect of the problem will in time see fit to provide an interesting quantitative analysis of this problem.

By all odds, the largest and most significant portion of the problem is that visual disability brought about by direct trauma to the eye, whether by flying solids or liquids, by corrosive chemicals or hot metals, by occupational disease or by radiant energy.

One might suppose that it should be a simple matter to refer to the records of the various state compensation commissions or bureaus and in a simple fashion compile a list of the costs of compensation incurred as a result of accidents involving the eye. The bald fact is that it is impossible to do this. Some states do not compile the statistical results of their experience with compensation, and the reporting practice in the other states varies greatly. In some states accidents causing a loss of one day's time are reported and tabulated, while in others only those causing a similar loss of at least three to seven days are so reported, and in some only those accidents in which the injured workers are granted compensation by the adjudicating tribunal are entered in the statistical tables of the commission.

When one attempts to determine the economic importance of this problem, what should be considered as constituting an injury to the eye? It seems clear that any ocular injury which causes economic loss should be included. Certainly, an accident which results in the loss of one day's work has caused some economic loss to industry and the worker. Ideally, then, all accidents involving the eye and causing disability of one day or more should be chosen as a basis for one computation.

To the best of my knowledge, the state of Ohio, with its exclusive state insurance fund, is the only state with complete reporting in which all accidents causing a loss of time of one day or more are reported.

In Ohio, for the year 1938, accidents involving the eye constituted 17.7 per cent, and for the year 1939 they constituted 17.6 per cent of all accidents causing the loss of one day's time or more.

There is an estimate by Schwartz, based on figures such as these, that there are approximately 300,000 industrial accidents of the eye in the United States each year resulting in the loss of time of one day or more. This estimate has been recomputed by Mr. Louis Resnick, of the National Society for the Prevention of Blindness, who arrived at a figure of three hundred and fifteen thousand for the number of such accidents. I believe these to be close estimates of the annual number of industrial accidents involving the eye occurring in the United States.

As a result of a consideration of large numbers of cases of compensation the ratio of compensable accidents to total accidents has been established definitely at 20 per cent. On this basis there are in the United States approximately 60,000 cases of compensable injury to the eye each year.

The average cost of compensation per case for accidents involving injury to the eye in all states is greater than the cost for other accidental injuries. In the state of New York, for example, the cost of compensation per case over a five year period was found to be almost twice that for other accidental injuries per individual case. In the year 1939 the average cost per case of ocular injury in New York State was $644, whereas the average cost per case for other types of accidental injury was $362.

If each of the 60,000 cases of compensable injury to the eye were to cost $644, as they did in New York State in 1939, the total cost would be $38,600,000, but if the total were computed on a basis of the average cost in New York State for the period 1925-1930, namely $593 per case, then this total cost would be $35,500,000.

The cost of accidents involving injury to the eye may be computed in a somewhat different fashion.

Through the kindness of Mr. Kjaer, of the U. S. Department of Labor, Bureau of Labor Statistics, I have been provided with recent statistical data with reference to accidents to the eye in various states of the union. In general, these data present for the most part cases in which compensation was paid, and because of the variation in compensation grants and types of industry, the figures, naturally, must be regarded as based on a somewhat nonuniform standard. They indicate that ocular injuries make up from 2 to 16 per cent of all compensated injuries. In New York State, for the period 1925 to 1930, the percentage was 3. For the year 1939 the percentage was between 3 and 4 for Wisconsin, Illinois, Indiana, Maryland and Massachusetts.

If one employs this figure, which is on the conservative side, and applies it to the 2,107,000 compensable accidental injuries of all kinds which take place each year, one arrives at a figure of 61,000 as the total number of compensable accidental injuries of the eye occurring each year. This figure agrees closely with the 60,000 arrived at previously. If, again, one assumes each case to cost $593, the total annual cost would be $36,200,000.

Sutherland cited an analysis of 234,000 cases of compensation which disclosed actual payments for injuries to the eye of 5.31 per cent of the total cost of compensation. Employing the National Safety Council estimate of $700,000,000 as the cost of all compensation in the United States, he arrived at a figure of $37,170,000 as the annual cost in the United States of compensation for accidents involving injury to the eye.

These three estimates, lying between 35.5 and 37.2 million dollars annually of the direct cost of compensation for accidental injuries to the eye in the United States must be regarded as being a reasonably correct statement of the magnitude of the direct cost of compensation to American industry.

COSTS OF NONCOMPENSABLE ACCIDENTAL INJURIES

In addition to the 60,000 compensable accidental injuries of the eye occurring in the United States annually, there are, as the figures cited clearly indicate, approximately 240,000 noncompensable such accidental injuries. Many of these are noncompensable because of origin, fortuitous factors, brief duration of disability and a multitude of other reasons which it is unnecessary to detail at this time. Nevertheless, this large number of accidents must constitute some financial burden to the worker and to industry. Certainly they must interrupt work on the part of the injured worker and, in all likelihood, to a certain extent among the other workers in his vicinity in the workshop.

The National Council on Compensation Insurance estimated the average medical cost of a noncompensable accidental injury to be somewhat over $9. Computed on this basis, the 240,000 noncompensable ocular injuries would increase the total cost by approximately $2,160,000.

INDIRECT COSTS OF ACCIDENTAL INJURIES

Accidents cause lost time on the part of the worker and certain employees in the shop who may stop work because of such an occurrence and on the part of foremen, supervisors and possibly other executives. The cost of this lost time and of first aid plus the indirect cost due to interference with production and the lack of the use of machines and equipment have been estimated to increase the direct cost of accidents by approximately 400 per cent. Heinrich, of the Travelers Insurance Company, made careful analyses of the indirect cost portion of the accident problem and appeared to be convinced that this figure is reasonable. For example, in a detailed analysis of an accident in a drop forge plant, the figure was 500 per cent.

I am convinced that there is a large financial loss due to these indirect costs, but I am not certain as to the exact percentage involved. Suffice it to say that the indirect costs of all accidents—accidents involving the eye included—is a sizable item in the cost of accidental injuries in industry. If the total direct cost of accidental injuries to the eye is assumed to be approximately $30,000,000 annually and the indirect costs to be an equal amount—surely a conservative figure—then the total cost is approximately $60,000,000 annually, and I believe this to be a conversative estimate of the costs to American industry of accidents involving the eye.

As a matter of pertinent interest at this time, it may be well to analyze the type of industries most frequently associated with accidents involving the eye. Analyses of this kind have been made by many investigators, and in general it has been found that more than 60 per cent of all such accidents occur in metal and metal product manufacturing industries.

In the machine shop industry, these accidents represent a high percentage of the total of all accidents, and this high percentage is consistently found in industries engaged in the manufacture of machine tools, foundries, machine shops, boiler works and the metal goods industries in general.

At this particular time, when the machine shop and the machine tool industry are playing such an important

role in the nation's life, it is obvious that a study of the problem discussed is a direct approach to the further problem of guarding manpower in national defense.

CONCLUSIONS

In spite of what may appear to be a maze of statistics, I have attempted to refrain from the use of figures so far as possible in this presentation. It may be well, therefore, to summarize briefly several important conclusions to be drawn from it.

1. There occur approximately 300,000 accidental injuries to the eye in American industry each year.

2. There are approximately 60,000 such injuries each year for which compensation is made.

3. The direct cost of these injuries is approximately 30 to 37 million dollars each year.

4. The direct cost of some 240,000 noncompensable injuries of the eye resulting from accidents is approximately $2,140,000 yearly.

5. The minimum indirect cost of these injuries is certainly equal to the direct cost, and the two together must, therefore, be a minimum of $60,000,000 annually.

6. The largest percentage of accidental injuries to the eye takes place in the machine tool, foundry and metal products industries, and at this time, when manpower is so important in these industries, the challenge to prevent such accidents must be apparent to every one.

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DISEASES OF THE RESPIRATORY TRACT AND AIR CONDITIONING

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DETROIT

One of the reasons for the inclusion of this topic in this symposium was created some hundreds of thousands of years ago when man's ancestor first began to scorn his hairy coat and to substitute therefor a layer of subcutaneous fat. It may be doubted that this design to pass down through the ages in shocking and obscene nakedness was directly planned to plague air conditioning engineers or physiologists at some later period, but the ultimate result is an animal organism highly individualistic in his ridiculous adaptations to his atmospheric environments. Such statements do not make claim that, had man retained in modest respectability his hairy coat, neither would he be beset by respiratory diseases, for his hirsute kinsmen the apes are not thus blessed, nor then would not be comforted by the boon of air conditioning. No less, man's nakedness and its scores of resulting delicate compensating mechanisms openly flout some of modern man's efforts hastily to divert the biologic course of a million years.

Wherever, for all time, disease experience for assembled groups of persons such as at work or in schools has been recorded, always the respiratory diseases overwhelmingly have dominated incidence rates. This has been well considered in the preceding portion of this symposium; but iteration is desirable in order to lead up to the statement that in the days when air conditioning for assembled groups was only a theory or at best only a clumsy application it was taken for granted, and almost universally so, that air conditioning would go far in the lessening of common respiratory diseases among such populations as commercial or industrial workers. Now, air conditioning of a quality in keeping with the best knowledge of the art and science has been applied in many places and under many circumstances and for a long enough time to warrant some reckoning as to this much desired respiratory disease ameliorating effect. Before entering on the venturesomeness of even a limited appraisal, it is desirable that I introduce a few definitions. If these are inacceptable for one's usage, they still should be applied to this present discussion.

From the Industrial Health Conservancy Laboratories.
Read before the Third Annual Congress on Industrial Health, Chicago, Jan. 14, 1941.

DEFINITIONS

According to Drinker,[1] "ventilation consists in supplying or removing air to or from confined spaces. It is a dilution process and requires no pretreatment or purification of the added air. Air conditioning, on the other hand, controls the quality of the air and may necessitate heating, cooling, drying, moistening or purifying." Thus a mine may be ventilated in effective manner without any air conditioning. To a useful end, filters may be introduced into windows or ducts in a hospital through which air for pollen-sensitized patients may be drawn, but this is not air conditioning, merely partial air purification—a special aspect of air conditioning. In a factory an exhaust system may entrain air with an effete content of gas, vapor or dust. This commendable practice does not constitute air conditioning but again air protection through one single aspect of air conditioning, viz., air purification. A further example may be found in the introduction of ultraviolet lamps in some area for the purpose of diminishing the content of atmospheric bacteria. Granting this possibility, this procedure does not achieve air conditioning but contributes to a single desideratum—air purification.

The objective in any air conditioning of any space occupied by human beings is the comfort and health of those occupants, but it is to be recalled that much air conditioning is not for the sake of persons but of things—wares, products, materials—and that such air conditioning may operate to the detriment of persons there present. Again, complete air conditioning, embodying heating, cooling, drying, humidifying, purification and air movement may be optimal for one class of occupants, such as premature infants, but be unsuited for another class, such as nurses.

All considered, there appears to be justification for these terms: (1) ventilation, (2) complete air conditioning, (3) partial air conditioning, (4) air conditioning for human beings, (5) air conditioning for wares or materials, (6) therapeutic air conditioning.

RESPIRATORY DISEASES AS INFLUENCED BY ISOLATED AIR CONDITIONING FEATURES

(*a*) *Industrial Exhaust Systems.*—The usual installation of exhaust systems in industry is for the purpose of air protection through the segregation of unwanted materials, conveyance to a point of safety in order that the workroom atmosphere may not be contaminated and that there may arise no necessity for general air purification. The isolated portions of the atmosphere thus involved may contain dust, irritant gases or vapors or odoriferous substances, or may be highly heated or exceedingly moistened. Some but not necessarily all

1. Drinker, Philip: The Application of Air Conditioning in Normal Life, J. Indust. Hyg. & Toxicol. **18**: 767 (Dec.) 1936.

of these entrained waste products of industry may constitute direct causes of diseases of the respiratory tract, but the greater number of these direct effects may be set apart from those disorders commonly regarded as making up the category of respiratory diseases, that is the common cold, coryza, pharyngitis, bronchitis, pneumonia—all essentially infectious diseases. However, apart from the fulminating injuries from industry's dust, gas and vapors it may be believed that bacterial action almost invariably plays a part in the pathologic conditions entailed. In any congested work area, where multiple industrial operations are involved, the number of factors that may contribute to a high frequency of respiratory diseases may be so numerous as to prohibit the segregation of any one agency as the precise cause of any high incidence of common respiratory diseases. Thus in a congested dusty work area, with high temperatures and excessive air motion, it is almost impossible to put the blame for a high frequency of respiratory diseases on any single, unwanted condition. While there are both affirmations and denials that so-called harmless industrial dusts play any considerable role in the causation of ordinary respiratory diseases, considerable proof is available from military experience with troops living in tents in the presence of dust storms. It has been my personal observation, and extensively so, in connection with troops living in tents and thus without extensive congestion, that immediately after dust storms of two or three days' duration the incidence of ordinary respiratory diseases, including pneumonia, enormously increases without the introduction of any new factor except dust. Of course under such circumstances there may be a marked increase of air velocity, but it has been observed that bodies of troops encamped under conditions of equal wind velocity but in the absence of fine material leading to general air dustiness have not been equally involved. The belief is here expressed that, under industrial conditions, dust, quite apart from any specific diseases such as silicosis that might arise after prolonged exposure, may be a factor in the occurrence of ordinary respiratory diseases, including pneumonia. Conversely, any suitable air protection measure, even though it does not constitute air conditioning within our definition, may be appraised as contributory to the lessening of such happenings. A further example may be taken from almost any of the irritant industrial gases, such as sulfur dioxide. The action of this gas, while primarily chemical, may facilitate the activity of bacteria already there present or concomitantly acquired, and thus an unnecessary frequency of ordinary respiratory diseases may be brought about. In short, in this appraisal it is reckoned that many types of industrial installations for the trapping and removal of specific disturbing waste products may play a praiseworthy part in lowering the incidence of infectious respiratory disorders.

(*b*) *Purification by Filtration.*—It may be recognized that effective filtration as the sole modification of air to be respired may be of definite value in the prevention and elimination of specific respiratory diseases of allergic nature. It is probably true that complete air conditioning, including filtration, may be even more efficacious in this respect. However, by the definition, mere filtration does not constitute air conditioning. Data in hand from such work as that of Yaglou,[2] Fraenkel[3] and Wells[4] provide justification for accepting this aspect of air conditioning as meritorious in the prevention and treatment of this category of respiratory diseases.

(*c*) *Purification by Diminution of Bacteria—Ultraviolet Lamps.*—At this time there exists widespread interest in the possibilities of lessening respiratory diseases through the killing off of atmospheric bacteria through several agencies, chiefly ultraviolet emanations. It is now well proved that bacteria, including harmful varieties, may remain in the atmosphere for considerable periods of time. Equally so, it may be conceded that ultraviolet emanations of suitable character may be caused to destroy these bacteria or at least to reduce the number present in the atmosphere. However, there is no final proof that any respiratory disease in human beings ever has been produced by bacteria or virus suspended in the atmosphere under such circumstances as to be subject to destruction by ultraviolet rays. With regard to laboratory animals, possibly this statement does not apply, although absolute proof possibly likewise is lacking. Lately much publicity has been given to proposals to install such appliances in army barracks, mess halls and recreation rooms. Although many claims have been made that ultraviolet lamps with bactericidal capacities may be provided without at the same time possessing damaging properties for the skin and eyes of persons directly exposed, and while this may be true for selected types, it is not clearly true for all varieties and all circumstances. By no means do these statements constitute condemnation of a growing practice, but the stand is here taken that more investigative work is required before any unequivocal stand may be taken in support of ultraviolet lamps as the means for lessening the frequency of respiratory diseases. While the work of Wells[5] is frequently and properly utilized by the sponsors of the practical utilization of ultraviolet lamps in the control of communicable diseases, it may be well to mention Professor Wells's own caution embodied in a personal communication lately received as now quoted:

> We are beginning to gather experience on the spread of contagion through aggregations sharing common atmospheres. We are trying to extend our experience as fast as facilities permit because it will take a long time to gather statistically significant evidence. While we entertain convictions, we are not prepared to publish conclusions on the basis of results on hand.

If it may be assumed that bacteria in the air and circulated through air conditioning ducts may be the source of infection, then Dalla Valle[6] has pointed out that bacteria sprayed in one room, which is a component part of a ventilating system, readily are distributed to various other rooms in the same system, thus conceivably making of air conditioning a distributor of bacteria, particularly when a high degree of recirculation prevails.

(*d*) *Purification by Dilution.*—In appraising the commoner single aspects of atmospheric modification,

2. Yaglou, C. P.: Advantages and Limitations of Hospital Air Conditioning, Mod. Hosp. **53**: 50 (July) 1939.

3. Fraenkel, E. M.: Air Purification and Allergic Conditions, Proc. Roy. Soc. Med. **30**: 1547 (Oct.) 1937.

4. Drinker, Philip, and Wells, W. F.: A Method of Testing Filters Against Pollens, Bacteria and Molds, Heating, Piping & Air Conditioning **8**: 408 (Sept.) 1936.

5. Wells, W. F.: Bactericidal Irradiation of Air: I. Physical Factors, J. Franklin Inst. **220**: 347 (March) 1940; An Apparatus for the Study of Experimental Air Borne Disease, Science **91**: 2355 (Feb. 16) 1940. Wells, W. F.; Stokes, J., Jr.; Wells, M. W., and Wilder, T. S.: Experiments in the Environmental Control of Epidemic Respiratory Infections, Tr. & Stud. Coll. Physicians Philadelphia **7**: 342 (Feb.) 1940.

6. Dalla Valle, J. M., and Hollaender, A.: A Study of the Role of Ventilating Systems in the Transmission of Bacteria, Pub. Health Rep. **55**: 1268 (July 12) 1940.

it is desirable to include dilution as of some significance in regard to respiratory diseases. While ventilation, as of a mine, for example, has been excluded from our definition of air conditioning, it may be pointed out that irritant gases, such as following blasting, if inhaled, may be conducive to respiratory diseases and, conversely, dilution through ventilation may constitute an effective measure in dissipating this source of respiratory tract involvement.

RESPIRATORY DISEASES IN COMPLETE AIR CONDITIONING

(a) Experience in Various Establishments.—May our interest now be shifted from single aspects of atmospheric modification to what we have agreed to term complete air conditioning for the benefit of human beings. This contemplates the addition or removal of certain atmospheric qualities somewhat depending on season, but always with regard to heating, cooling, humidifying, drying, air movement and air purification as the need may exist. At once it is to be pointed out that the concepts of some persons as to what constitutes proper, complete air conditioning may be such as to provide an atmosphere to be respired that lies beyond any reasonable acceptability as optimal within the present day knowledge of the art and science of physiologic air conditioning. Some atmospheres provided in the name of comfort air conditioning are so far removed from optimal air conditioning as to favor both discomfort and the occurrence of respiratory and probably other diseases. Our concern at this moment is not with this ill conceived type of air conditioning but instead with the best provisions in keeping with our present facts as to best practices. The question then is: Does the best of air conditioning influence for good or evil the frequency or severity of those states usually called respiratory diseases? While many unsupported or little supported statements have appeared claiming enormous benefits as to respiratory disorders there are now becoming available an increasing number of careful studies which permit of the appraisal of the situation on an acceptable statistical basis.

In the city of Detroit, at the offices of the Detroit Edison Company, large groups of office workers and others have carried out their work duties in two large buildings situated side by side and of general equality in size. One building, constructed in 1937, is completely air conditioned, without windows, but with glass tiled walls permitting the entry of sunlight. The adjoining building is older and until recently was without air conditioning facilities, although during the past two years some air conditioning has been introduced until the study no longer may be continued. The officers of this company, and particularly Dr. Schneider, gave me permission casually to report their experience, providing only limited data, since Dr. Schneider expects to make complete reports at an early time.

In each of these two buildings there were employed fortunately approximately equal numbers of workers—eight hundred and seventy-five in each, there being about twice as many males as females. After careful explanation to these workers in appropriate groups, nearly all volunteered to make weekly reports on their daily experience as to any respiratory disease, the extent of lost time, if any, and the severity of the disorder in terms of the necessity for medical care or hospitalization. A section of the statistical department was set up to appraise incoming data. In addition, provisions were made for the procurement of information as to age, living conditions and recreation. During a period of two years, approximately five hundred employees dropped out of the study for one reason or another, such as severance of work, transfer to other buildings and laxity in reporting. In addition, supervisors made observations and reports in sufficient numbers to test the accuracy of the reports sent in by the volunteers. Further, the medical department made available its own experience involving these volunteers. During this two year period there were fortunately one sizable and several minor citywide respiratory disease epidemics. For primary record purposes, chief concern centered about the incidence of fresh infections and about the severity of the infection in terms of lost time. The results seem clear cut. Day by day graphs for some seven hundred and thirty days for the workers of the two buildings follow one another with convincing fidelity. With the coming of the first cold weather, the incidence mounted, but equally for the two buildings. When epidemics of respiratory diseases came to Detroit, these Edison workers were not spared and an equal frequency occurred in the two buildings. Late in the winter, as might be expected, as general resistance became impaired, curves tended upward, but not more so for one group than for the other. The average incidence per hundred employees with a forty hour week for both buildings was eight new respiratory infections. The weekly severity rate for both buildings was two lost time illnesses per hundred employees. The peak occurred in September, when in each of the two buildings there was an average of twenty-two new respiratory infections with no lost time and correspondingly seven lost time infections.

As far as the results of this investigation may be regarded as warranting conclusions, and always awaiting the elaborate report of the company itself, through its medical and statistical departments, it appears that in good air conditioning, suited to winter and summer conditions, only the scantiest of differences have occurred as to respiratory disease frequency and severity in these two sizable groups of workers.

McConnell,[7] through several reports, has described the air conditioning facilities of the New Metropolitan Life Insurance Company's building, together with conditions in the company's older non-air conditioned building alongside. In the new building, at the time of the inquiry, some five thousand, three hundred and eighty-five employees were available for this study while five thousand, one hundred and twenty others were located in the older building. The two groups were adjudged to be suitable for comparison purposes with respect to age and sex, economic status, medical and personnel supervision. Five years later, on the basis of accrued information, McConnell notes:

> We may fairly conclude, from a comparison of the two groups, one working (for 22.3 per cent of the week) in an air conditioned building and the other for the same period in a nonconditioned building, but under reasonably comfortable conditions, that air conditioning has not shown any measurable effects on the incidence or duration of absences for upper respiratory infections or of nonrespiratory illnesses.

7. McConnell, W. J.; Fellows, H. H., and Stephens, M. G.: Some Observations on the Health Aspects of Air Conditioning, read before the fourteenth annual conference of the Life Office Management Association, Chicago, October 1937. McConnell, W. J.: Investigations of the Health Aspects of Air Conditioning, Refrig. Engin. 31:79, 1936.

A similar study was made by Bristol [8] and reported in 1938. A group of approximately one thousand female employees working in four air conditioned rooms in the same building were investigated with regard to the incidence, character and duration of sickness for a period of three years, using for comparison a similar number of women workers of the same average age and performing the same type of work in the same building, but in the absence of air conditioning. The statistics utilized are limited to illness lasting over seven days and to persons under the care of physicians. Three years' experience led Bristol to the following conclusion:

> From this study there is no evidence to indicate any improvement in incidence or duration of sickness among a group of upward of one thousand people working in scientifically controlled air conditioned space as compared with a control group of approximately the same size working in non-air conditioned quarters, ventilated by the usual mechanical and natural methods.

The conclusion apparently warranted by investigations of the type cited may be recorded in the language of Petersen,[9] through the following excerpts:

> There is at present no good evidence to support any broad beliefs that air conditioning as applied to workers in buildings will lead to any reduction in colds and respiratory infections in general. While the theoretical possibility exists that continued and absolute uniformity of optimal environmental conditions should render the individual more resistant, such a situation never exists in real life. . . . A reduction in morbidity need not be anticipated merely because we air condition the office or factory for one half of the individual's ordinary, daily period of action. Our enthusiasm should be moderated by the realization that we seldom deal with simple situations but very complex relations indeed.

(*b*) *Continuous Complete Air Conditioning.*—Scanty are acceptable reports dealing with respiratory diseases as influenced by continuous air conditioning. With few exceptions, such conditions are provided only in hospitals, and the greater number of persons involved do not represent healthy individuals. The results obtained by Blackfan, Yaglou, Wyman and McKenzie [10] are impressive. In old, unconditioned nurseries, the mortality percentage among premature infants from acute and chronic infections was 26.5. In air conditioned nurseries, with a relative humidity from 50 to 75 per cent, no fatalities occurred, but with a lower humidity, 25 to 49 per cent, the mortality was 9.7. Deaths from all causes in the unconditioned nurseries for the same period (1923-1925) were 28.9 per cent, while in the conditioned nurseries for the same later period (1926-1929) with high relative humidity (50 to 75 per cent) they were 0.7 per cent.

Kerr and Lagan,[11] in their studies of the common cold, inoculated twenty-eight normal subjects with material from the noses of patients suffering from colds. None of these experimental subjects developed colds while remaining in a room conditioned at a dry bulb temperature of 70 F. and a relative humidity of 50 per cent. These findings, though not conclusive, as the series is relatively small, are suggestive as to the value of conditioned air in raising the resistance to acute catarrhal infection. It will be agreed that, under usual circumstances, opportunities for the spread of infection are much greater in such places as street cars, busses and theaters than at work, although this is not invariably true.

In hospitals with air conditioned rooms, experience as to postoperative pulmonary complications at least suggests benefit from air conditioning. Young [12] encountered in one year's experience in an air conditioned hospital where seven hundred and forty-three divers operations had been performed but one case of postoperative pulmonary complications. While this observation was not subjected to parallel observations as to postoperative experience under non-air conditioned experience, the implication is that air conditioning was a factor in this excellent record.

The real test of the values of air conditioning in the prevention of respiratory diseases will come only from a prolonged, adequately controlled investigation made with a sizable group of persons continuously living under complete and proper air conditioning. Some state or federal penitentiary might afford an excellent environment for such a study. For most of the rest of us, it may remain necessary that we duck in and out of natural and artificial climates all to the amazement of our capillaries, mucous membranes and heat regulating equipment. Only Gargantua of the circus will travel up and down the land continuously provided with complete air conditioning. Even though the type of study contemplated proves that continuous complete air conditioning favorably influences respiratory diseases, the heartening results may be of only academic worth for day by day normal life, since continuous complete air conditioning for the general population is scarcely expectable.

(*c*) *Air Conditioning Shock.*—The discomfort on emerging during the summer season from a cooled, air conditioned space into natural atmosphere and the reverse has been made the basis of many complaints against air conditioning. There has come into use the term "air conditioning shock," and unfavorable comment has been made that such swift changes promote respiratory diseases.

Mudd, Grant and Goldman [13] in 1921, in a series of experiments on human beings, demonstrated that chilling of the body surface caused reflex vasoconstriction and ischemia in the mucous membranes of the nasal cavity and postnasal space. They thought that this ischemia might cause a lowering of the local resistance, which would allow infection to occur. During the course of their experiments, ten of the subjects developed acute colds and sore throats, and an interesting change in the bacterial flora was noted.

It has been my personal lot to work in mines in the Southwest, where the mine temperature constantly was at 56 F. and on leaving such a mine to enter a natural atmospheric temperature at times of 96 F. I, as well as other unwary persons, immediately suffered from syncope, dizziness, quick fatigue, profuse sweating, flushing of the skin and other manifestations suggesting a quick lowering of the blood pressure. No such differentials as this may be expected in connection with emergence from an artificially chilled room, designed for human comfort, but the tendency is in the same direction.

8. Bristol, L. D.: Air Conditioning and Industrial Health, J. A. M. A. **110**: 2142 (June 25) 1938.
9. Petersen, W. F.: What Weather Does to Man, Heating, Piping & Air Conditioning **10**: 595 (Sept.) 1938.
10. Blackfan, K. D.; Yaglou, C. P., and Wyman, Katherine M.: The Premature Infant, Am. J. Dis. Child. **46**: 1175 (Nov.) 1933.
11. Kerr, W. J., and Lagan, J. B.: Studies on the Transmissibility of the Common Cold, Tr. A. Am. Physicians **49**: 245, 1934.
12. Young, A. G.: Postoperative Pulmonary Complications Under Controlled Air Conditions, Hospitals **12**: 61 (Aug.) 1938.
13. Mudd, S.; Grant, S. B., and Goldman, A.: The Reactions of Nasal Cavities and Post-Nasal Spaces to Chilling of Body Surfaces: I. Vasomotor Reactions, J. Exper. Med. **34**: 11 (July) 1921.

It is not unusual to provide a differential of 20 degrees F. between an artificial climate and the natural air on a hot summer's day. Offsetting in some measure what has been said is the fact that during the winter season it is not extraordinary to pass from an outside temperature at 0 F. into a warm room of 80 F. Thus a differential of 80 degrees occurs without profound discomfort either then or in the reverse situation. With reference to clothing, it does not always follow that the person who enters a warm building from an outside temperature of 0 F. or thereabouts inevitably makes any changes in his clothing. As to the physiology of these quick shifts, Petersen [9] states, as to the effect of quick cold,

> There occurs a "retreat to the interior of the body, the skin vessels contract, the blood pressure increases, the vascularization of the interior is greater, the blood pressure becomes transiently more alkaline, the body cells become less permeable.
>
> [By contrast, this investigator in describing the tropical effect states that] the peripheral vessels are dilated, the blood pressure lowered, the smooth muscles relaxed, the basal metabolic rate becomes depressed. If prolonged or the temperature unusually high, a relative alkalosis may follow with greater irritability of the autonomic and central nervous systems. In some individuals, the effect on the autonomic nervous system, especially the effect of cold, is followed by much more profound effects in some individuals than the actual change in the environment apparently would warrant.

This statement leads to a further quotation from Petersen as follows:

> This particular fact becomes of importance because the only real insult offered the population by the air conditioning engineer is the vast differential that exists at certain times between out side temperature and the designed indoor air temperature; under present practice this may vary by as much as 30 degrees F. Physiologically, this is preposterous. While within the range of adaptation for the perfectly normal individual, it involves a definite metabolic strain and can be harmful for a considerable group of subjects.
>
> The vasomotor crisis associated with the rapid adjustment necessary under such conditions may (*a*) cause an increased susceptibility to infection, (*b*) result in gastrointestinal disturbance, (*c*) precipitate acute dysfunction in organs that are inadequate.
>
> The reversal from a sojourn in an air conditioned (cool environment) of this type to the hot, humid, outside environment will in turn accentuate the peripheral dilatation that will normally follow a period of unusual and unseasonable chilling—with resulting excessively low blood pressure, fainting, nausea, etc.
>
> Nevertheless, the engineer is quite justified in assuming that changing air mass as now designed has no great significance for the normal individual and for this group can fabricate the air conditioning structures either for greater comfort or greater efficiency, or both, but he should keep in mind that even here unusually abrupt environmental changes may be of pathological significance under certain conditions.[13a]

All of the foregoing leads to the general statement that swift and unseasonable environmental changes in connection with air conditioning are undesirable for many persons and are undesirable in proportion, first, to the lack of quick adaptability of heat regulating mechanisms and, second, to the temperature differentials involved. While a differential of 15 degrees F. between an air conditioned atmosphere and the natural atmosphere has been widely endorsed, there are many persons for whom a maximum differential of 5 degrees is far more desirable and particularly so when the outside temperature is high.

Contrary to the foregoing trend is the work of Houghten and others [14] with groups of office workers in connection with summer cooling. Observation led to the conclusion that no especially unfavorable reactions were experienced in connection with movement to and from air conditioned rooms.

GENERAL COMMENT

(*a*) Engineering capacity is far ahead of medical guidance in connection with air conditioning. Engineers may build and will build any number and types of devices to meet the standards set by physicians, hygienists and physiologists, and there is impatient clamoring that such medical standards be set forth. The proper answer seems to be that there exist among human beings so many different requirements for comfort and well being with regard to the atmospheric environment that never will it be possible to place in the hands of engineers any bill of air conditioning particulars uniformly suited to all persons.

(*b*) Through long custom, we agreeably adjust ourselves to natural weather conditions by variation in clothing. On the other hand, with regard to artificial climates we somewhat resentfully expect that this air conditioning fully will be adjusted to our requirements. For any group of persons in an artificial climate, even though the conditions are suited to the best interests of the majority, there will be some whose individual requirements may require individual adjustment. By and large, too much is expected of air conditioning.

(*c*) No comment in this discussion has been directed to efficiency, comfort, noise abatement and other indirect effects on health as a result of air conditioning. Lest there be any misapprehension that the values of air conditioning are lightly regarded, let it here be recorded that such values are fully recognized. Likewise in connection with special therapies, many forms of modified atmospheric conditions and special features of air conditioning are rightfully highly esteemed.

(*d*) On today's program, I have been listed as the chairman of the American Medical Association's Committee to Study Air Conditioning. While I speak as an individual and do not necessarily voice the opinions of the committee as a whole, it is my intent and desire to portray the general attitude of the entire committee. It is our belief that air conditioning holds many possibilities in addition to the promotion of comfort, efficiency and material protection. Some are directly linked with health. It is the sincere hope of this committee that, through cooperation between physicians everywhere, public health workers, hygienists, engineers and others, all possible physiologic stumbling blocks that hamper the application of air conditioning in the promotion of health may be removed.

(*e*) All considered, at the present time, it appears that the control of ordinary respiratory diseases depends to a greater extent on "human conditioning" than on air conditioning.

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13a. Professor Yaglou, to whom a preliminary draft of this manuscript was referred for comment, makes the point that excessive sweating on emerging from a cooled area into one of high temperature is a noteworthy factor in air conditioning shock.

14. Houghten, F. C.; Newton, A. B., and others: General Reactions of Two Hundred and Seventy-Four Office Workers to Summer Cooling and Air Conditioning, Heating, Piping & Air Conditioning **10**:552 (Aug.) 1938. Newton, A. B.; Houghten, F. C., and others: Summer Cooling Requirements of Two Hundred and Seventy-Five Workers in an Air Conditioned Office, Heating, Piping & Air Conditioning **9**:758 (Dec.) 1937.

PREVENTION AND TREATMENT OF INFECTIONS OF THE HAND

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Recently I had an opportunity to summarize the results of treatment of all open wounds sustained by the workers in a manufacturing plant located approximately a mile from the hospital with which I am affiliated. The number of injuries was not large—sixty-nine in a period of six years—and the injuries were not often serious, consisting for the most part of clean-cut wounds resulting from the handling of metal sheets and strips. There were included, however, a number of cases in which division and suture of digital nerves were necessary, 1 case in which division of flexor tendons was done and 2 in which division of extensor tendons was done. The rules for the care of injuries were simple and definite—a sterile dressing was to be applied immediately over the open wound and the injured employee taken to the hospital without delay.

The majority of these patients were seen within a half hour of the time of injury. At the hospital the open wounds were carefully cleansed with plain white soap and sterile water applied with soft, sterile cotton and gloved hands and were irrigated with warm salt solution by a resident or a surgeon carefully masked and scrubbed before he began cleansing the wound. The cleansed wounds were immediately repaired and closed. If loss of covering tissue had resulted from tangential wounds a graft of skin was applied immediately. Anesthesia was often secured with a 0.5 per cent solution of procaine hydrochloride and sometimes with nitrous oxide.

The fact that stood out was that of all the patients, 47 in number, who were sent to the hospital immediately after the injury was sustained the injury of only 1 failed to heal by primary union and without infection. In 1 patient with a crushing injury and a subungual hematoma a low grade infection developed underneath the nail. Twenty-three cases in which infection occurred were seen during the same period. In every case except the 1 just mentioned the employee had failed to report until an average period of three days after the injury, and in every case definite signs of localized or spreading infection were present when the patient was first seen.

Of 41 patients reporting immediately after the injury, including the 1 in whom infection developed, the average loss of time from work was two and two-tenths days. Of 6 workers reporting immediately after injury, 3 with fractures of fingers or toes (2 with compound fractures) and 3 with division of nerves and tendons, the average loss of time from work was twenty-nine days. In these cases, furthermore, healing occurred by primary union, but the necessity for prolonged immobilization after fracture of bones, tendons or nerves was responsible for the delay in returning to work.

Of the patients who reported at intervals varying from six hours to eight days after injury and who showed evidence of infection when first seen, the average loss of time was eleven and one-tenth days, ranging from no loss of time from work to periods of twenty-eight and thirty-two days, the two longest intervals.

In none of the cases that were seen and cared for immediately after the injury was sustained and in none of the cases of extensive compound injury which Dr. Mason describes in this symposium and in which he has obtained such striking results was sulfanilamide or any of its derivatives or any so-called antiseptic used at any time during the course of treatment.

The moral, I think, is clear. The most certain way to prevent infection of an open wound is not to fill it with tincture of iodine or sulfanilamide crystals but to cover it immediately with a sterile dressing and entrust the patient to some one who will give him cleanly surgical care without adding further contamination to the open wound. With increasing experience physicians are coming to realize that the most important source of contamination of an open wound is not the metal or knife or glass that caused the wound, not the bacteria that may be present on the patient's skin, but the uncovered noses and mouths of excited bystanders, or first-aid workers or of any one who is attempting to examine or treat an open wound without carefully masking his face, covering his scrubbed hands with sterile gloves and making certain that the instruments and materials with which he is working are sterile. Uncovered mouths and noses, hands hastily scrubbed and instruments dipped for only a moment in an antiseptic solution are the real sources of the infection that the thoughtless worker so often considers the inevitable sequela of an open wound. It is my firm conviction that the time will soon come when physicians will be as deeply shocked by the spectacle of a surgeon or a nurse with unmasked face and ungloved hands caring for an open wound, whether the wound is a half-inch laceration or the raw surface resulting from an extensive burn, as they are by the picture of Samuel Gross donning his frock coat stiff with pus and coagulated blood, picking up the contaminated scalpel from the wooden instrument box and unwittingly inoculating with virulent bacteria the fragile, delicate, vulnerable substances that are called muscle and subcutaneous tissue and skin.

I would not decry the value of chemotherapy when it is indicated or deny for a moment that the sulfonamides are of great help in combating and arresting certain types of infection. The point I would stress is that the first line of defense lies in the immediate protection of the open wound so that infection from without is not permitted to enter, and the next line, in simple surgical cleanliness that does not add chemical and mechanical trauma to the fragile, delicate cells of living tissue.

Once infection has developed in an open wound the surgeon must first answer the question "Is the infection diffuse and spreading or is it localized?" Why? Because diagnosis must precede rational and effective treatment, and the treatment of the two types of infection is radically different. The acute, spreading infection requires absolute rest, application of warm, wet, sterile dressings to help nature mobilize the defensive forces of the body and bring about localization of the infection, specific chemotherapy and abstinence from any form of active surgical intervention until localization is secured. If a localized infection is present, in other words if an abscess has formed, the sooner the abscess is drained the sooner will the continuing necrosis that is synonymous with infection be arrested and the inauguration of healing made possible. Both types of infection obviously demand all the means at the disposal of the surgeon for building up the resistance of

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the patient and neutralizing the harmful effects of virulent organisms. These are too well known to require restatement at this point.

If an infection is localized, and these principles apply as definitely to every part of the body as they do to the hand, the next question is again one of diagnosis: Where is the infection localized?

Paronychia, felon, collar button abscess, infection of the lumbrical space, subfascial infection, infection of a tendon sheath, infection of thenar, middle palmar or subaponeurotic space—all are definite clinical entities, with clearcut and unequivocal symptoms. For each there is one best method of securing adequate drainage which will lead to healing in the minimum period of time and with minimum injury and loss of function. These facts were set forth clearly more than thirty years ago by Kanavel, first in his surgical papers and later in his monograph on infections of the hand. The constantly increasing recognition of the importance of the subject, both at home and abroad, is attested by the number of monographs on infections and injuries of the hand which has appeared during the past few years.

Space does not permit nor is it necessary for me to repeat here the detailed symptoms or treatment of the various types of infection of the hand. I would like, however, to stress a few general principles which apply to the surgical treatment of every form of localized infection.

The preparation of the field of operation should not cause pain or add injury to tissues already devitalized by infection. I know of no better method than the gentle and patient cleansing with soap and water that I use in the care of an open wound which has just been sustained. Every one has seen the destructive effect of chemical antiseptics, for example, of tincture of iodine, on inflamed and injured tissues.

A general anesthetic is preferable to a local anesthetic because it does not add further injury to the injured tissues and because it permits the surgeon to work with the deliberation and care that are synonymous with "good surgery." The opening of an infected tendon sheath, for example, involves careful exposure and complete visualization of the digital nerve on the side of the finger chosen for incision. If the digital nerve is exposed and retracted dorsad there can be no question of injuring digital blood vessels, for they lie dorsal to the nerve. The tendon sheath, though it may be filled with pus, is a relatively small tubular structure. The diffuse swelling of the finger which always accompanies infection of a tendon sheath results from the cellulitis of the distensible, soft, subcutaneous tissues outside the sheath, although the "abscess" is within the synovial sheath. Not infrequently one sees an infected finger in which the soft tissues only have been incised and the sheath within which the pus is held remains unopened. Such failures and irreparable injuries of essential nerves, blood vessels and tendons themselves can easily occur if the watchword of the surgeon is "Get in and get out."

A bloodless field is an invaluable asset for careful and exact surgical procedures. It is an easily available boon for the surgeon working on the extremities. Before any operation is carried out on the hand a blood pressure cuff is applied to the patient's arm and a bandage wrapped smoothly around it so that a part of the rubber bag cannot escape from underneath the bandage as the cuff is inflated. Just before operation is begun the extremity is raised for a few moments and the bag inflated with a pressure of 250 mm. of mercury. A bloodless field permits the surgeon to make accurate incisions, to make certain that important structures are left uninjured and that the infected area is adequately and effectively drained. One single observation that attests the importance of accurate visualization of the field of operation is the not infrequent occurrence of infection of a tendon sheath resulting from incision for drainage of a felon. Such a complication should never occur, but if one is attempting to make a quick incision in a distal phalanx obscured with blood and for a patient who is scarcely able to tolerate the pain in the acutely inflamed and incompletely anesthetized finger, it is not difficult to go beyond the anterior closed space and carry infection into the vulnerable tendon sheath as it surrounds the flexor profundus at its insertion on the base of the distal phalanx.

After an adequate incision has been made to drain the affected area the tough and rigid edges of skin must be held apart for twenty-four to forty-eight hours so that they do not promptly become agglutinated and prevent escape of infectious material. A soft wedge of gauze saturated with petrolatum and placed in the angle of the wound where it will be least likely to obstruct drainage is the best method I know. Too often what is called a drain is simply a cork and serves only to dam back exudate rather than to aid its escape.

Incisions on two sides of a finger or hand are almost never indicated. Unnecessary multiple incisions simply require a longer period for healing and tempt the surgeon to insert drains through the finger or palm—the most certain and effective way of causing necrosis of vulnerable tendon sheaths and tendons.

Drains can invariably be removed in twenty-four to forty-eight hours and should not be replaced. There is no more certain method of adding infection to an open wound and of delaying the healing process than by repeated reinsertion of "drains." If the incision for drainage is adequate and correctly placed spontaneous drainage will continue until healing takes place; if it is not, continued reinsertion of a drain will not compensate for the error.

Immediately after an abscess has been drained the continuous application of external heat over a moist sterile dressing for two, three or four days favors drainage, stimulates the circulation and relieves pain. If the extremity is elevated the return circulation is aided and the onset of congestion delayed. Continuous application of warm wet dressings should not be continued indefinitely. The onset of congestion with its resultant maceration of covering tissues and edema of deeper tissues should be anticipated by substituting for the continuous moist dressings, three or four days after operation, intermittent soakings in warm sterile solutions followed by drying of the extremity under a heat lamp.

Throughout the postoperative course every effort should be made to dress the injured hand with cleanly surgical care and avoid adding further infection to that which has already occurred. The most serious infections I see in the Hand Clinic at the Cook County Hospital are those which follow human bites and those resulting from the surgeon's advice to "soak the hand, dressing and all, at regular intervals" in warm solution of boric acid or warm magnesium sulfate solution. When one finds it difficult to teach the principles of good technic and of cleanly surgical care to medical students and house officers, how can one expect that a person without medical training can avoid contaminating a recent

wound the first time he changes the dressing or the first time he soaks the hand, dressing and all, in a homemade "sterile" solution?

Finally, the important principle of providing rest for injured tissues should be constantly kept in mind. Light aluminum splints which can be easily fashioned into desired shapes and which can be sterilized and incorporated into the dressing from the outset of treatment help greatly to provide the rest that aids healing and brings relief from pain.

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ANATOMIC DIAGNOSIS OF INJURIES OF THE HAND

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DETROIT

As has been so aptly stated by Kanavel, "The hand of the working man is his most valuable asset. Without it life becomes a burden."[1] Appreciating this, the surgeon when caring for an injured hand must exert the utmost diligence in making a correct diagnosis, in performing careful and expert treatment and in carrying out meticulous after-care. Although the hazards of industry have been materially reduced, physicians are still faced with the problem of treating great numbers of injuries to the hand. Before any active treatment of such wounds is undertaken it is paramount that an exact diagnosis be made and a careful analysis made as to the cause, location and extent of the lesion. It may seem almost unnecessary to emphasize the importance of this initial procedure, but so often if it is neglected or carelessly performed a finger or hand may be rendered useless or a life may be lost. When dealing with any ailment affecting a human being, the physician must not permit the importance of any one lesion to overshadow the general picture of the patient as a whole.[2] Granted that an injured hand demands prompt and efficient attention, associated lesions such as shock and abdominal, thoracic and intracranial injuries must be searched for and diagnosed. If such a lesion is discovered the proper treatment should be instituted, and then only after considered judgment should the care of the hand be carried out.

In few regions of the body are the essentials of diagnosis so dependent on anatomy as in the hand. Unquestionably, the detailed anatomy of the hand is extremely complex and difficult to comprehend. This is particularly true if one merely commits structures to memory without attempting to understand the great importance of function. This paper will be limited to a description of certain diagnostic tests based on functional anatomy. Obviously, it will be not only impossible but impracticable to discuss in detail here the anatomy of the hand. The excellent studies by previous authors have been freely drawn on[3] and this discussion will present nothing new.

Injuries may be divided into four main groups—depending on whether tendons, nerves, bones or blood vessels are involved. It is important to obtain, if possible, an exact account of how the injury was sustained, as this may give valuable information regarding damage to underlying structures. If, for example, a man is struck on the tip of a flexed finger by a swiftly moving object, one might expect an injury to the extensor tendon at its insertion into the distal phalanx. Again, a crushing type of injury would center one's attention on the bony structures. Any wound which may have been contaminated at its inception by germs from the human mouth or by other virulent organisms should be given particular and specific treatment.

The specific location of wounds may be of considerable diagnostic aid as, for example, those occurring over the knuckles with danger of involvement of the joints and those occurring over relatively superficial tendons, arteries or nerves. Experience in some clinics may lead one to expect certain types of injuries in one location as compared to others. A consideration of the location of flexor and extensor injuries of tendons seen at the Detroit Receiving Hospital over a three year period is of interest (fig. 1).

First, there was a rather striking and interesting grouping of injuries on the palmar surface as compared with the dorsal surface, lesions of the flexor tendon occurring most commonly on the fingers and wrist while lesions of the extensor tendon occurred usually over the dorsum of the hand. No doubt the reason for this distribution is that the flexors are most apt to be injured at these locations in the act of grasping and also because the tough palmar fascia protects the tendons in the palm of the hands. On the extensor surface the fingers, being more limber, will yield to a possible injuring object, while the dorsum of the hand presents a more solid and unyielding structure. It would seem that the experience described should be duplicated in any large general hospital although, undoubtedly, certain definite occupations produce a preponderance of different types of injuries in varying locations.

INJURIES OF FLEXOR TENDONS

If a patient has a laceration of the flexor surface of the wrist, palm or fingers an orderly examination should be made. Obviously, any severe bleeding must be controlled. Fortunately in the hand and wrist pressure will usually suffice. Of a certainty, clamping bleeding vessels hurriedly, with insufficient vision and poor aseptic conditions, is a most harmful procedure. The integrity of the flexor tendons should be established. This may be accomplished by testing the function of flexion of the fingers with respect to the individual tendons. Under no circumstances, and this applies definitely to all open lesions of the hand, should probing or exploring without adequate aseptic precautions be indulged in.

Consider an injury to the flexor digitorum profundus tendons. These flex the fingers at the distal interphalangeal joints (fig. 2). If the proximal and middle phalanges are fixed, active flexion can be produced at the distal interphalangeal joint only by an intact deep flexor tendon. Active flexion may be produced at the proximal interphalangeal joint when the deep tendons are injured, but the distal joint will remain extended.

The flexor pollicis longus flexes the thumb at the interphalangeal joint. If the proximal phalanx is fixed, active flexion at the interphalangeal joint can be produced only by an intact tendon, while with an injured

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1. Kanavel, A. B.: The After-Treatment of Infections of the Hand, S. Clinics, Chicago **4**: 1164-1182 (Dec.) 1920.

2. Koch, S. L. The Treatment of Compound Injuries and the Infections Resulting from Them, Bull. Am. Coll. Surgeons **16**: 3-10 (March) 1932.

3. These studies include: Couch, J. H.: Surgery of the Hand, Toronto, University of Toronto Press, 1939, as well as the other references given in the paper.

or a severed tendon the flexion is limited or the joint remains in extension. When the superficial tendons alone are injured, specific identification is more difficult, as the deep flexors can produce flexion at the interphalangeal joints. However, this diagnosis can usually

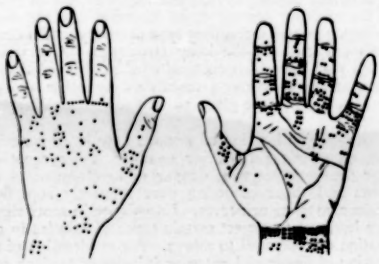

Fig. 1.—Summary of 200 tendon injuries, Jan. 1, 1937-March 1, 1940.

be determined by inspection under conditions in the operating room. In addition, even without intact flexor digitorum sublimis tendons, adequate function of the hand may be obtained, as the profundus tendons will amply suffice.

Division of the flexor carpi radialis tendon weakens the power of flexion of the wrist and increases the ulnar deviation of the hand. Injury to the flexor carpi ulnaris likewise weakens the power of flexion of the wrist and the ulnar deviation of the hand is lost.

INJURIES OF EXTENSOR TENDONS

When an extensor tendon is divided there is limitation of extension of the fingers. However, if the fingers are fixed in flexion at the metacarpophalangeal joints, extension of the interphalangeal joints may be produced by the lumbrical muscles. The true test of an extensor tendon is the performance of extension of the phalanges without support of the hand below the metacarpus, as the act of extension of the metacarpophalangeal joint is dependent on the common extensors (fig. 3). An avulsion of the extensor tendon from its insertion into

Fig. 2.—*A*, test of flexor profundus tendon, distal phalanx flexed, interphalangeal joint fixed; *B*, after division of flexor profundus tendon, finger can be flexed by flexor sublimis but extension remains at distal interphalangeal joint.

the distal phalanx or a division of the tendon in this region produces a characteristic deformity of flexion. The ability fully to extend the distal phalanx is lost. Another injury less common in incidence than the one just mentioned is a rupture of the extensor pollicis longus.[4] This lesion may be produced by repeated vibratory motions of the tendon, with the hand held in a fixed position, such as typically occurs in drummers. Certain specialized occupations demand the performance of such movements of the hand and thumb. The thumb loses the power of extension of the distal phalanx unless it is adducted and flexed, when the abductor brevis and flexor pollicis brevis may produce some extension. In addition, the medial border of the anatomic snuffbox is lost. Abduction and adduction of the thumb are weakened, and the thumb cannot be brought to the radial side of the index finger.[4] A rupture or division of the dorsal aponeurosis over the proximal interphalangeal joint may be due to direct violence or a lacerating injury and produces a rather typical deformity.[4] The two lateral slips are loosened and anteposed toward the volar surface, causing the joint to protrude posteriorly. The deformity is further increased by the pull of the lumbrical and interosseus muscles. There occur extension of the distal phalanx, flexion of the middle phalanx and extension of the promixal phalanx. Any motion increasing tension of the extensor tendons accentuates this deformity.

INJURIES OF NERVES

The two nerves supplying muscles in the hand are the median and the ulnar. The diagnosis of a divided motor nerve may be confusing, as deceptive movements

Fig. 3.—*A*, true test of extensor tendon function (metacarpophalangeal joint extended); *B*, false test of extensor tendon function faked by lumbricals (metacarpophalangeal joint flexed).

may be produced by certain muscles whereby the function of the ulnar nerve may imitate the function of the median nerve.

When one is caring for a laceration of the flexor surface of the wrist or palm, injury to the median or ulnar nerve should be suspected and tested for. If tendons have been lacerated in the wrist, there is great probability that the median or ulnar nerves, singly or together, have been damaged. Identification of structures at operation is difficult, to say the least, and it is immeasurably better to know before operation which nerves have been impaired.

In testing for integrity of the median nerve, it is well to remember that there are five muscles in the hand supplied by this nerve. These muscles are abductor pollicis brevis, flexor pollicis brevis, opponens pollicis and the first and second lumbricals (radial lumbricals). Three of these affect chiefly the function of the thumb. A branch of the median nerve called the motor or recurrent branch comes off 1¼ inches (3 cm.) directly distal to a point at which the upper border of the

4. Mason, M. L.: Rupture of Tendons of the Hand, Surg., Gynec. & Obst. **50**: 611-624 (March) 1930.

anterior annular ligament crosses the tubercle of the os scaphoides.[5] This branch supplies the three thenar muscles of the thumb. It is superficial and is not well protected; consequently a small laceration in this region may easily damage this nerve. The power of abduction of the thumb, medial rotation of the metacarpal and some flexion at the metacarpophalangeal joint will thus be lost (fig. 4).

The best test for the integrity of the median nerve is as follows: With the palm facing upward, the patient should lift the thumb directly toward the ceiling. This demonstrates the action of the abductor pollicis brevis. It seems to be a more definite test than having the thumb moved across the palm, as the action of the opponens pollicis may be confused with that of the adductor, the latter being supplied by the ulnar nerve. In general, it may be stated that if a patient is able to abduct and rotate the thumb to oppose the fingers the median nerve is intact. Laceration of the median nerve will also produce anesthesia in the area of its distribution (roughly, in three and one-half fingers and the adjacent palm and, dorsally, in the thumb and in the distal third of two and one-half fingers; fig. 6).

The ulnar nerve supplies all the short muscles of the hand except those mentioned previously, which are

Fig. 4.—*A*, true test of median nerve—short abductor; *B*, test of median nerve (opponens), faked by flexor.

supplied by the median. The action of the interosseus muscles is to abduct and adduct the fingers away from and toward the midline of the hand. Division of the ulnar nerve will produce an inability to perform these movements. The best demonstration, then, of function of the ulnar nerve is to test the action of the interosseus muscles.

If the fingers are partly flexed, this action may be simulated by the long extensors, which are supplied by the radial nerve (fig. 5). Anesthesia should also be tested for in the area of the sensory distribution of the ulnar nerve, namely in the fifth finger and in one half of the ulnar side of the fourth finger and the adjacent palm and dorsum of the hand (fig. 6).

The radial nerve supplies no muscles in the hand, nor can the motor portion of this nerve be injured below the lower portion of the forearm. However, injury to the motor fibers of the radial nerve higher in the arm will produce profound and characteristic disturbances of manual function. The typical picture is that of "wrist drop" produced by a paralysis of the extensor group of muscles. The sensory branch of the radial nerve can be injured at the wrist, and anesthesia will be produced over a portion of the dorsum of the hand and approximately three quarters of the dorsal area of three and one-half fingers (fig. 6).

Fig. 5.—*A*, true test of ulnar nerve (interossei); fingers spread in full abduction; *B*, false test of ulnar nerve; fingers dropped; spreading faked by extensors.

In lacerations of the fingers the areas of sensory distribution of the digital nerves should be outlined (fig. 6), for if the surgeon is forewarned that one of these nerves has been severed this knowledge will aid considerably in the operative procedure.

The signs and symptoms of injury to bones and joints in the structures of the hand are fairly characteristic and diagnostic. Brief mention should be made, however, of a few of these injuries. Dropping of the "knuckles" occurs with fracture of the metacarpals due to a posterior angulation at the site of fracture with or without shortening. Point tenderness is present in the anatomic snuffbox as well as pain on motion of the wrist when the scaphoid (navicular) is fractured. Roentgen examination should definitely be employed in any suspected fracture of the hand or wrist, and at least two views should be taken.

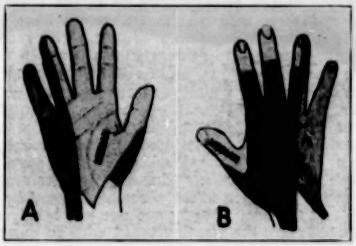

Fig. 6.—Sensory areas supplied by median, ulnar and radial nerves: *A*, palmar aspect; *B*, dorsal aspect.

In addition to the anatomic diagnostic procedures already discussed, it should be stated that exact knowledge of the anatomy of the structures of the hand is an absolute necessity for the adequate repair of an injury to the hand. The identification of various nerves, tendons and blood vessels as well as the tentative

5. Grant, J. C. B.: A Method of Anatomy, Baltimore, Williams & Wilkins Company, 1940.

localization of the point at which their retracted ends may be found demands sound anatomic knowledge and much surgical experience.

SUMMARY

Several important points should be reemphasized concerning the diagnosis of injuries to the hand:

1. Immediate and correct diagnosis is essential.
2. Early, hurried, unsterile or rough exploration of the wound in order to make a diagnosis is not only unnecessary but may be extremely harmful.
3. The most important of the specific tests should always be carried out as described.
4. The majority of lesions of tendons and nerves may be diagnosed by certain functional tests of the fingers and hands based on a knowledge of the anatomy of the hand.

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TREATMENT OF SUPERFICIAL INJURIES AND BURNS OF THE HAND

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Superficial injuries of the hand may be divided for purposes of discussion of treatment into those which are sharply lacerated and those which are the result of a crushing or avulsing injury. This discussion applies to the injury to soft tissue involving only the skin and the subcutaneous tissues of the hand.

The purpose of treatment of any wound is to convert it from an open wound to a closed one as early as possible so as to prevent the occurrence of infection or any delay in healing. Wounds seen within six or eight hours from the time of injury may be safely converted into a closed wound provided they have not been tampered with, as by injudicious attempts to control hemorrhage. After eight hours one feels that the wound has progressed beyond the state of simple contamination to one of actual infection and that it is unwise to close such a wound or seal up the infection. There are two types of wounds, however, which should never be closed immediately: those obtained from human sources as at the autopsy table or in the operating room, and those incurred from a mouth bite; such wounds are contaminated with virulent, active bacteria which may early spread through the tissues.

The emergency care for any type of wound, whether a laceration or a burn, need not mean applying medication but rather should consist of the immediate application of a simple sterile dressing to the entire area involved. If the wound is bleeding, and it usually is if seen immediately, application of light sustained pressure over the sterile dressing will control it adequately. Too often in the excitement caused by the injury and the hemorrhage some one will hastily and regrettably grasp the bleeding vessel with an unsterile forceps and thus introduce an unwarranted source of infection. Should it be necessary to transport the patient to an emergency station, a splint may be added to the outside of the original sterile dressing, and by this method unnecessary motion and pain may be prevented. The question of shock and its recognition and treatment will not be discussed.

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The patient should be treated in an emergency operating room which has adequate equipment and personnel to insure correct surgical care. In such an operating room every precaution should be taken to insure asepsis, and this means not only the use of sterile instruments, gowns and gloves but the adequate masking of both nose and mouth by every person entering the room, including the patient, when an open wound is exposed. By this procedure alone many serious infections arising from contamination by droplets from the nose and mouth may be prevented, and I feel strongly that this source of contamination is too often disregarded. It is from the open noses and mouths of those inspecting or treating the wound that the more common and serious infections arise.

After the patient is comfortable and a sterile setup is ready, it is wise to apply a blood pressure cuff to the upper arm, which may be inflated to control bleeding, if necessary. Now the extent of the wound may be determined, but it is seldom necessary to remove the dressing to determine whether the nerves and tendons are divided, nor is it necessary to probe the wound to determine its extent. The wound should be inspected and an approximate idea of its extent obtained. If the wound is a simple superficial injury and it is decided to repair it in the emergency operating room, then the operator prepares himself by scrubbing his hands and applying sterile gloves as for any surgical procedure. The original dressing is removed and the wound itself covered with a sterile dressing. Attention is first directed to preparing the adjacent skin, and not until this is cleansed should the wound itself be treated. Grease and oil may be removed with benzine and the skin shaved if necessary. The skin surrounding the laceration is gently cleansed with soap and copious amounts of water for ten minutes. For this purpose I use simple white cake soap and large sterile cotton pads, which produce less irritation to the skin than gauze sponges or brushes. Simple white cake soap is used only as an agent to obtain mechanical cleansing of the skin and wound. This soap is not irritating to the skin or wound as is tincture of green soap, other medicated soaps or any effective antiseptic. When this cleansing is completed the operator changes his gloves, and with a fresh supply of soap and water the wound itself is washed. Cleansing the wound should mean gentle washing with soap and almost continuous irrigation with sterile saline solution. It is often of value to insert sterile retractors to hold up the edges or layers of the wound to insure mechanical cleansing of all areas. Occasionally it is necessary to administer the anesthetic, either local or general, before the wound itself is cleansed. After the wound has been thoroughly cleansed sterile linen is draped about it and fresh gloves and gowns are used by the operator and assistants. At this time the patient's arm is elevated and the blood pressure cuff is inflated to 260 mm. of mercury.

After anesthesia is obtained, the wound should be carefully cleared of all jagged tags of skin, fascia or muscle, and all bleeding vessels should be clamped and ligated with fine silk. The material excised is only the devitalized tissue which would later become necrotic, and this procedure does not mean sacrificing viable though exposed tissue. The wound is at all times irrigated with warm saline solution. The exact extent and depth of the wound must now be determined. The surgeon must be certain that no deeper, unrecognized nerves and tendons are divided. Assuming that there are no deep structures divided, after the wound is so

prepared it is wise to pack it gently and, while exerting light pressure, release the tension of the blood pressure cuff. After the hyperemia has subsided the wound should be inspected for any unrecognized bleeding vessels, which when found are clamped and ligated. Usually the arm is again elevated and the blood pressure cuff reinflated, and closure is begun. It has been brought out numberless times, but I wish again to stress the importance of gentle handling of the tissues during the repair of these injuries. Injudicious grasping with heavy forceps or ligating large masses of tissue adds only further trauma to these already damaged cells. To obtain good healing and a minimum of scarring, it is necessary to obtain healing by first intention, but this is not possible if the tissues are so damaged by rough handling that they cannot survive this additional trauma, let alone be effective in healing. The closure of most lacerations should consist of anatomic restoration of fascia and skin, by the use of fine silk sutures to the subcutaneous tissues and accurate approximation of the skin with horsehair sutures. Closure should never be done under tension. Tension produces edema and too often loss of vitality of the tissue so held. If tension is necessary, it is best to close the wound by some other method, such as a graft of skin or extension of incisions. The closed wound is covered with a large soft yet firm dressing which exerts continuous pressure, and a splint is incorporated to insure rest to the injured part until healing has occurred. The blood pressure cuff is released after the dressing is intact, and this prevents, or at least diminishes, the possible formation of a hematoma. All injured patients with open wounds are then given a prophylactic injection of tetanus antitoxin after sensitivity has been determined by the intradermal test.

The other commonly encountered wound of the superficial tissues of the hand is that produced by a crushing or avulsing injury. The hand is often caught between rollers and is suddenly withdrawn, emerging with either a complete loss of skin and subcutaneous tissue or a flap of skin with a pedicle attached distally. A common example is also the crushed finger tip with either amputation of soft tissue or a poorly attached pedicle of skin and fat. All these wounds produce trauma to the deeper-lying soft tissues, and these are infiltrated with blood which, if unrecognized, may accumulate and leave a large hematoma and eventually a deep fibrosis which delays restoration of function. Seldom does one stop to realize the damage which has been done to the deeper structures by these injuries.

The emergency care and preparation of the wound caused by crushing is the same as for the previously described simple laceration. For the repair of the more extensive injury, it is best to use general anesthesia because the use of a local anesthetic may add to trauma of soft tissue and diminish the blood supply, even temporarily. The blood pressure cuff is applied but is not used in all cases because bleeding is not profuse and the temporary interruption of the flow of blood may be sufficient to jeopardize further the vitality of the crushed tissue. The crushed tissue must overcome both the local trauma and the local impairment of its blood supply. I feel that the flow of blood to the part must be encouraged, not interfered with by an unnecessary local anesthetic or a long interruption of the flow by the use of the blood pressure cuff, as is advocated in cases of sharply lacerated wounds. The débridement is more extensive because the tissues have been torn, and there are jagged white tags of fat and skin on all sides of the wound; these must be excised to normal bleeding tissue. In debriding this type of wound, surgical judgment must be used to determine whether the crushed skin and subcutaneous tissue are viable and whether their blood supply is adequate to obtain healing. It is usual to see too little tissue removed. To test for this one must obtain normal bleeding or tissue of good color which one is certain will live. Too often the surgeon does not excise extensively enough for fear of being unable to close the wound and either having to use a graft of skin or having to suture under tension. When the surgeon is prepared in such cases to do a skin graft his débridement is more extensive and satisfactory.

The closure may be simple but if the skin and soft tissue are so seriously impaired that the wound cannot be approximated without undue tension, a graft of skin must be used. The wound must be closed, and only at this time, early after the injury, has one the opportunity to convert it into a closed wound; do not delay applying a graft immediately if it is at all necessary. If there is sufficient soft tissue to cover the tendons or bones a graft of intermediate thickness taken from an already prepared thigh or forearm may be applied to the defect and sutured into place. For a finger tip, the forearm is an excellent donor site for a small graft to cover the raw area. If there is exposed bone or tendon or if it is impossible to bring some adjacent subcutaneous tissue to cover the exposed deeper structures, a pedicle or pocket flap on the abdomen or thigh may be prepared and the hand placed under this. Regardless of whether a graft is or is not used, the dressing is highly important in such cases, and a large, firm dressing over all areas involved must be applied and the entire hand and forearm kept at rest with the use of a splint. Pressure can be obtained by the use of sterile sea sponges or mechanics' waste, which will exert at all times a steady pressure to the crushed areas. This will diminish the amount of secondary edema, prevent venous stagnation in the crushed flaps of skin which have been sutured into place and keep the graft in apposition to the soft tissue at all times. These dressings are not disturbed for five to eight days, and the pressure and splint are continued until healing occurs, which is often slower in the case of a crushing wound as compared to that of a sharply lacerated wound. If a free graft has been used, it is wise to continue pressure for at least three weeks before motion or use of the part is started. Many times a secondary plastic procedure may be necessary in these crushing injuries, but this should not be considered during the emergency care—at this time the whole procedure should be directed toward obtaining a closed wound which will not become infected and delay healing.

I have mentioned pedicle or pocket flaps as an alternative in closing wounds. Although this type of graft has its definite use in supplying skin and subcutaneous tissue to a defect, such a graft should be used only when there has been time to raise and undermine the flap in stages so as to insure its blood supply. My associates and I do not believe in its routine use in emergency cases because of the uncertainty of the viability of its skin and since, in such cases, one is applying the flap to an already contaminated wound. So for most such open defects arising from crushing or avulsing wounds we have used a free graft, usually of intermediate thickness, often of the full thickness of skin but seldom of the pedicle or pocket flap type.

The commonly crushed finger tip may become, unnecessarily, a slow-healing wound. Often nothing is done to close the wound, or else further amputation is done and the wound sutured under tension. It has become more and more apparent that the more one thinks of grafting skin to close these wounds the less one must do as regards further amputation. Except in rare cases in which only the exposed tip of bone remains we have not resorted to amputation. However, should the thumb or index finger be so involved we would simply place the involved finger under a pedicle flap on the opposite wall of the chest rather than amputate. In the ordinary case it is possible to cover the exposed bone from adjacent soft tissue and close the wound by using a graft of intermediate thickness taken from the forearm. One must not forget, in cases of crushed finger tips, to have a roentgenogram made, because a fracture of the distal phalanx is often present and such a fracture will take a long time to heal.

Concerning less serious crushing wounds which do not produce a laceration of the skin, a word of warning may be appropriate. After incurring such wounds, as an injury from a wringer, the patient usually seeks immediate medical aid, but there is early only slight swelling of the hand, and often nothing is done for the patient except to have a roentgenogram made. To do nothing is a mistake, because the swelling is a progressive hematoma which will soon separate the crushed skin from its vascular supply, and within twenty-four to forty-eight hours necrosis of the skin will begin. This necrosis is extensive and may involve half the skin of the dorsum of the hand, leaving extensor tendons exposed, and such a condition will necessitate prolonged care and eventually a graft of skin. For this reason such crushing injuries, although not associated with laceration, should be cleansed, splinted and have a large pressure dressing applied immediately to prevent the hematoma from progressing under the already crushed skin and prevent this skin from being separated from its blood supply. Many times a simple roentgenogram is taken of the hand and the patient discharged; the roentgenogram only rarely shows a fracture in such an injury—encountered only once in more than 100 cases of injuries from wringers seen at the hand clinic at the Cook County Hospital.

It is our opinion that burns of the hand or other parts of the body should be considered in a discussion of wounds. Burns are large, open, surgical wounds and should be given the same cleanly care and converted early into closed wounds as should any other surgical lesion. The best emergency care that can be given a burn is the same as for any other wound, namely applying a simple sterile dressing and not covering the burned area and skin with some handy ointment, whether an antiseptic or not; all grease will have to be removed later to cleanse the wound satisfactorily. In cases of burns, after shock has been combated the patient is given morphine if necessary, and with the same aseptic technic described previously, including masks and gloves, the entire burned area and the surrounding skin are gently cleansed with soap and water. In cases of extensive burns we have found that the old treatment of placing the patient in a tub of continuously circulating warm water will control all pain and allow for cleansing. After the cleansing, all blebs and loose tissue are cut away and the burned area is washed again and flushed with large amounts of sterile saline solution. It is important for the patient's comfort that warm solutions be used throughout and that the room be kept warm to prevent drafts of cool air from striking the exposed tender wound.

After the cleansing is completed, the entire surface of the burn is covered with a nonadherent type of sterile dressing such as petrolatum gauze, and this is then covered with a voluminous soft dressing which is bandaged to exert pressure to all the areas involved, and here again a splint is applied. If the hand and digits are involved, the fingers are always separated by dressings and the hand kept in the "position of function" on the splint. The patient is then put to bed. The more extensively burned patient is given plasma intravenously, and his status is determined every few hours by hematocrit determinations. If the hematocrit readings show a continued or progressively higher percentage, administration of plasma is continued. This condition of "burn shock" may progress for twenty-four to thirty-six hours, and the patient must be correctly treated with plasma, fluids and oxygen during this time. In treatment of seriously burned patients it has seemed unwise to wait until the complete picture of "burn shock" has developed. It is better to anticipate the need of rest, plasma and oxygen immediately just as one anticipates the need of rest, fluid and intestinal decompression of a patient with a ruptured appendix.

The burn is not disturbed, but the dressings are carefully observed to insure continuous pressure. As in the treatment of any other surgical wound it is an advantage to both the wound and the patient to leave the dressings undisturbed unless there is a sign of infection or unusual pain. Daily dressing of a healing wound is not necessary; it adds only further trauma plus the possibility of introducing an infection. At the end of fourteen days or later, the original dressing is painlessly removed and the less seriously burned areas are usually healed. In areas in which deeper involvement or third degree burns have occurred there will be a dark, brownish, adherent crusted exudate. The dressings are now altered to simple pressure dressings moistened with a dilute solution of sodium hypochlorite or with saline solution and are changed daily. At each dressing the adherent crust partially separates and granulation tissue appears; then one should use fine meshed gauze and a pressure dressing to keep the granulation firm, flat and ready to receive a graft of skin. As soon as all the crust has separated and the granulations appear healthy and clean, a graft should be planted on this area. This procedure is too often delayed, and deep scarring results.

SUMMARY

The management of an open wound, whether superficial or deep, consists in the application of a simple sterile dressing immediately after injury to prevent further contamination and to control hemorrhage. From that time on all efforts should be directed toward maintaining strict asepsis and preventing secondary contamination from human sources. When seen immediately after the injury a wound can be cleansed mechanically with soap and water and converted into a clean wound. The tissues devitalized by the injury should be excised so as to leave only viable tissue. Careful hemostasis should be obtained during the operation by a blood pressure cuff and ligation with fine silk and after operation by means of a carefully applied pressure dressing.

An injury seen within six or eight hours can be closed by suture or skin grafting. All wounds may be safely left undisturbed postoperatively until healing has progressed.

Rest of the part is insured by splinting and noninterference with the dressing when there is no indication to interfere.

PURPOSEFUL SPLINTING FOLLOWING INJURIES TO THE HAND

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A couple of years ago I visited a small suburban hospital to care for a simple fracture of the leg and was taken to the splint room by the superintendent, who showed me with great pride an appalling array of splints of all kinds. I was told that the splints were bought so that if a specialist from the city should come this modest hospital could meet his requirements.

Often these complicated splints are accompanied by elaborate charts and instructions, but rarely is there any description of the principles underlying the splinting. I feel that it is not so much a question of what splint to use as it is of the principle behind the splinting.

I recall in my house officer days, thirty years ago, working under that wise surgeon Dr. C. A. Porter, who taught most of the physicians in the community the principles of surgery of the hand. After doing an elaborate and complicated operation on the tendons and nerves of the flexor surface of the wrist he said "Put on a splint." In those days putting on a splint meant cutting a board splint about 2 feet long and padding it with a fold of sheet wadding or maybe a folded pillow case. This was applied to the arm with the hand, wrist and forearm straight. The end result was a perfectly healed wound, a stiff wrist and fingers frozen in full extension—a hand with practically no useful function. Thirty years has brought about a wondrous change. The mechanics of the hand and the positions of greatest function are now known.

MINOR INJURIES

In superficial injuries such as abrasions, burns and infections, rest is the greatest therapeutic agent known. Movement of the tissues, joints and tendons has a distinct tendency to continue disease and delay healing, and so immobilization of the part, plus elevation, promotes healing. The position giving the maximum of rest has been variously called the position of neutral muscular pull and the position of physiologic rest.

In the case of infection, a large poultice applied to the hand, making a dressing several inches in diameter, gives the hand warmth and firm immobolization. Such a dressing, of course, must be changed at frequent intervals so that the condition of the tissues may be inspected and the progress of the infection studied. It may sometimes be reinforced with a metal or plaster slab to give further support and to prevent any motion at the joints.

I have often wondered whether or not the same degree of careful splinting, plus elevation and rest in bed, might not produce a comparable degree of benefit even without the poultice. Now that the value of chemotherapy is known, acute spreading infections of the hand and wrist may well fall into another group which may or may not do away with poulticing.

FRACTURES

In the classrooms of the fracture clinic for many years physicians have heard this admonition in first aid: "Do not transport the patient until after he has been carefully splinted. Then reduce the fracture and apply a proper splint to hold the fracture in the reduced position. Keep the fracture splinted until healing has been established. Then instigate active motion."

I shall discuss briefly the splinting of some of the commonest fractures in the hand.

The Wrist.—The common fracture of the wrist is the Colles fracture. Reduction is accomplished by bringing the distal fragment into flexion-pronation, the styloid process of the ulna being used as a fulcrum. Experience has shown that after reduction has been accomplished it is best to splint for from ten days to two weeks with the hand in this position. Experience has further shown that after two weeks it is possible to restore the hand to the neutral position and a week after that to the position of dorsiflexion without danger of losing the position of the bone. In general the splints used to maintain this position in my clinic have been of plaster of paris, one part spread on the back of the wrist extending from the upper forearm to the metacarpophalangeal joints and a similar splint on the front extending from the upper forearm to the proximal palmar crease. This splint is held in position by a circular bandage. In certain rare instances it is possible to maintain reduction of a Colles fracture in the neutral position.

Fractures of the carpus after reduction have been held in position in a plaster of paris splint extending from the forearm to the metacarpophalangeal joint with the wrist in extension and the metacarpal bones of the thumb fixed in extension and with the phalanges permitted to fall into the position of flexion. This position simulates the position of grasp.

Fractures of the metacarpal bones of all the fingers may be treated in the extended position.

Fractures of the proximal and distal phalanges, however, because of the peculiar anatomic structure of the tendon and the interossei and lumbrical muscles, are best treated in flexion. This is particularly true of fractures of the proximal phalanx of the thumb, which, in addition, should be brought into adduction. Sometimes, because of overriding of the fragment, it is necessary to apply traction, either in the form of a banjo splint made with adhesive plaster applied to the distal phalanx or by drilling a needle through the bony portion of the distal phalanx and then applying a banjo splint in which countertraction is obtained from a plaster of paris cylinder about the wrist and forearm.

In all these fractures, if traction is necessary, the hand must be held in the position of grasp and the traction applied in the line of neutral muscular pull to the end that the bones may, with the aid of the fascial tube and the muscles and tendons with which they are associated, be held in position for ultimate function.

INJURIES TO TENDONS

Injuries to the tendons on both the volar and the dorsal portions of the wrist and hand are extremely common. The tendon heals quickly and willingly if the ends are approximated either by operation or by adequate splinting, but the splinting must be applied so

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that it relieves all tension and holds the hand in the proper position until healing is complete.

If the long extensors of the hand or the long extensors of the thumb are severed by laceration on the dorsum of the wrist, the hand must be splinted with the wrist in complete extension and the metacarpophalangeal joint similarly in complete extension. The thumb in its entirety must be maintained in its position of extension until the tendon has had an opportunity to unite firmly. On the other hand, in lacerations to the flexor tendons the hand must be held in the flexed position with the wrist in flexion and all the joints of the fingers and thumb flexed without tension until healing is well established. For this purpose a plaster of paris or an aluminum splint may be applied to the back of the wrist extending from the forearm to the metacarpophalangeal joint. To this may be added a compression dressing at the site of the injury to relieve pain, prevent outflow of serum and promote healing.

INJURIES OF NERVES

The three nerves which supply the hand are the radial, the ulnar and the median. One or all of these may be injured and cause dysfunction of the muscles that they supply.

The radial nerve is commonly injured above the elbow when the humerus is fractured. After such an injury there is immediate paralysis and dysfunction of all the extensor muscles of the forearm, with subsequent inability to extend the wrist, to extend the fingers at the metacarpophalangeal joint or to extend the entire thumb. Such a drop of the wrist should not be permitted to continue, for it causes overstretching of the muscles and tendons, and even when the function of the nerve is restored the muscles and tendons fail to function. Therefore, with an understanding of the function of the radial nerve, a splint must be applied which will put these various muscles in the relaxed position; that is, the wrist must be extended, the metacarpophalangeal joint must be extended and the thumb must be brought into complete extension. How this is obtained is of little importance. Some prefer to put a splint on the volar surface of the hand to include the thumb. Others prefer to put a similar splint on the back of the hand but with an elastic appliance about the palm to allow exercise of the member.

The ulnar nerve is frequently injured at or about the elbow and as the result of an injury to the upper or lower part of the forearm. The ulnar nerve supplies sensation to the ulnar side of the hand, to the little finger and to one-half the ring finger. The motor portion of the nerve in the hand supplies all the intrinsic muscles of the hyperthenar eminence, all the interossei muscles and the two ulnar lumbrical muscles. Another motor branch crosses the entire palm of the hand and supplies the adductor muscle of the thumb and the short head of the flexor brevis pollicis. Therefore after an injury to the ulnar nerve the hand should be so splinted that the muscles thus supplied are put at rest. The thumb should be brought close to the index finger to relax the adductor, the metacarpophalangeal joints should be flexed at right angles to relax the interossei and lumbrical muscles and the middle finger should be semiflexed to relax the muscles of the hyperthenar eminence.

The median nerve, which is frequently cut in the middle of the forearm, at the flexor crease of the thumb gives off sensory branches which supply the thumb and the index, the middle and one-half the ring finger and the medial half of the palm. Its motor branches, however, supply all the muscles of the thenar eminence of the thumb, one-half the flexor brevis pollicis and the two lateral lumbrical muscles—in other words, all the opponens muscles of the thumb. In order to put these muscles at rest the thumb must be brought into the palm of the hand so that it points to the ring finger. The fingers may be held in more or less complete extension. This position can be held by a simple bandage about the hand or with a leather support which will hold the thumb in the adducted position.

CONTRACTURES

After burns, infections and crushing injuries to the hand, sometimes the muscles of the hand are brought into a contracted position, so that the function of the member is lost. If these deformities are associated with the joints or with the capsule of a joint or with the tendons, it is often possible to overcome this contracture by slow, steady traction with garter elastic. If, on the other hand, the contracture is associated with scar tissue crossing a flexion crease it is almost impossible to overcome this scar contracture by traction with elastic. The pull of the elastic must be slight, the direction correct and the rate of stretch slow. A slight amount of traction applied slowly over a prolonged period will produce far better results than a greater amount of traction over a shorter period.

MATERIALS FOR SPLINTS

In the matter of splinting one must consider the materials available and their advantages and disadvantages.

The large compression bandage with a basis of 2 to 3 inches (5 to 7.5 cm.) of soft absorbent cotton bound firmly in place with a cotton elastic bandage gives excellent immobilization and a degree of compression which is useful in preventing swelling. This may be supplemented with a plaster, wood or metal splint. If adequate cotton is applied it is impossible to bind the hand so tightly that circulation is impeded.

Wooden splints are easily available, and in the hands of an ingenious and experienced surgeon and with the aid of a saw, a knife, a bit of sandpaper and adequate cotton padding the making of a useful splint is possible. However, wood has its limitations in that it is difficult to bend.

Metal (sheet aluminum, 1/16 inch [0.16 cm.] thick) can easily be cut with a pair of tin shears to fit the given case. With the aid of a hammer, a small vice and perhaps a drill and a file, it can be molded and fitted to make any type of splint that is needed. Of course, it must be padded with felt. It is light and waterproof and offers easy passage to roentgen rays.

Plaster of paris is extensively used, particularly in the East. There is a new plaster on the market which dries rapidly and is easy to mold to the hand and arm.

Castex is lighter than plaster of paris, is waterproof, makes a more attractive splint than other materials and is particularly useful when a removable splint is desired.

There is also a new material, Thermex, which can be melted by heat and molded to the desired shape. It can be reheated and used repeatedly and has the advantages of being permeable by roentgen rays and of being waterproof.

With all these materials available it is possible for the surgeon to select the one best suiting his immediate need.

RESTORATION OF FUNCTION

When healing has advanced sufficiently for one to feel that no simple procedure will destroy healing, active voluntary use of the hand is the best method of restoring useful function. In the hand, as nowhere else in the body, active use is the best method of restoring muscle power and coordination of this muscle power. What a man can and will do with his crippled hand has, in my experience, never been harmful. In my clinic I have almost entirely discarded other physical therapeutic means and have found that occupation in a workshop, often with the splint still in place, hastens the restoration of useful function and obtains an optimum end result.

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INJURIES TO NERVES AND TENDONS OF THE HAND

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The repair of injuries to the nerves and tendons of the hand, with any reasonable assurance of success, is a product of modern aseptic, atraumatic surgery. With an increasing appreciation of wound healing and the many factors which affect it has come the realization that man is dependent for repair on living, healthy cells and that no amount of technical skill or rapid operating dexterity can compensate for disregard of delicate living tissue. Important in all surgery, this realization is doubly so in repair of the nerves and tendons of the hand, for in few situations do even minor disturbances of a wound play such havoc with end results. The first prerequisite for this type of surgical intervention is an appreciation of just what is meant by primary healing, since without this and without the patience to work carefully to attain it the end results will always be disappointing.

I cannot hope at this time to discuss adequately all those things which go to make up the "atraumatic" technic. No matter how gently tissues are handled, countless thousands of cells are injured, and all such damaged tissue interferes to a greater or less extent with repair. The surgeon has no control over the tissue damage due to the injury itself, but from the time of injury on, except under the most adverse conditions, further trauma may be prevented or minimized by intelligent care. The first aid treatment should consist in the application of a dry, sterile dressing bandaged snugly over the hand to control bleeding. The bottle of antiseptic should be left entirely out of the first-aid kit, since antiseptics damage tissues and do not sterilize a wound but render it distinctly unfavorable for primary repair of nerves and tendons. A splint should be applied to keep the hand and fingers at rest, and the arm should be placed in a sling while the patient is transported to the emergency room or hospital, where examination for diagnosis of the extent and nature of the lesion should be done with a minimum of exposure and handling.

The operative repair itself is a crucial test of the surgeon's ability to handle tissues gently and to leave in his wake a minimum of devitalization. The preparation of the operative field by careful washing with soap and water and irrigation with physiologic solution of sodium chloride can be depended on to provide a "clean" cutaneous surface and a "clean" open wound with a minimum of irritation of the tissues within which the repair of nerves and tendons may be safely accomplished. Irritative antiseptics have no more place at operation than in first aid and should be scrupulously avoided. The excision of devitalized tissues removes from the wound a most serious handicap to primary healing and should be carried out thoroughly but intelligently. In handling the tissues, forceful tugging and retraction, grasping of edges of skin and other tissues with heavy forceps and unnecessary clamping add to the burden of healing. In the ligation of vessels, care should be taken that only the bleeding point is grasped in the forceps and that the ligature does not include large amounts of surrounding tissues destined to become necrotic.

The control of bleeding during operation, and hemostasis afterward, is an important consideration. An operative field flooded with blood is conducive to wiping and sponging with rough gauze, makes identification of anatomic structures difficult—often impossible—and is so distracting to the surgeon that satisfactory repair is impossible. A bloodless field, secured by means of a blood pressure apparatus pumped up to 250 to 260 mm. of mercury after thirty seconds' elevation of the arm, is an absolute necessity. This pressure may be maintained as long as is necessary to complete the procedure and is released just once during the operation in order to aid in ligating bleeding points not visualized during dissection. The pressure is maintained until the wound has been cleansed, excision of tissue has been accomplished, divided structures have been identified and mobilized and the surgeon has determined on his course of action. The cuff is then deflated and gauze pressure maintained on the wound for a few minutes until the reactive hyperemia begins to subside. Bleeding points are then grasped and ligated, and the blood pressure cuff is again inflated after thirty seconds' elevation of the arm. The remainder of the operation is accomplished, the wound closed and the dressing applied before the sphygmomanometer is finally released. The dressing of a large mass of fluffed gauze bandaged snugly over the hand prevents oozing into the tissues in the immediate postoperative period. In this way the wound is kept free of hemorrhage during operation and hematomas are prevented from developing afterward.

Drying and heat from the lights of the operating room and from exposure to the air may be minimized by frequent irrigation with physiologic solution of sodium chloride. During the care of the immediate injury, copious irrigation is done throughout the whole procedure; in the secondary operation, irrigation need not be so profuse but should be sufficient to keep the wound moist and to wash out débris. For the same reasons, gauze sponges used during the operation should be moistened with saline solution.

The instruments and suture material for the repair of nerves and tendons are relatively simple and include no complicated, specialized "gadgets." The tissue forceps, hemostats, scissors, retractors and needles ordinarily supplied in an operating room are usually much too coarse for this type of work. Fine hemostats, tissue forceps with fine grasping ends and retractors

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with small blades are necessary. The needles, both curved and straight, should not be heavier than a fine cambric needle, while for closure of skin one should use the finest curved cutting needle that will go through the skin without breaking. Sutures are important and must be considered from the standpoint of both size and composition. In the search for the finest and the least irritative suture material silk, cotton and steel have proved the best. My preference is for untreated silk in the fine sizes. In the present state of confusion regarding sizes of silk, one cannot define it in precise terms. It is hoped that a system of grading silk in terms of diameter and tensile strength will eventually be evolved. The heaviest silk necessary for the suture of tendons need not have a tensile strength greater than 4½ to 5 pounds (2 to 2.3 Kg.), and it is not unlikely that this is too heavy. For the repair of nerves a 6-0 or even an 8-0 nerve or eye silk (tensile strength ½ pound [0.2 Kg.] or less), swaged on ½ or ¾ inch (1.2 to 2 cm.) straight or curved needles, is excellent. For ordinary ligature and for subcutaneous closure, a silk with a tensile strength of 1½ to 2 pounds (0.7 to 1 Kg.) is ample. Closure of the skin may be done with fine cutting needles and fine horsehair, the advantages of which have been learned from the plastic surgeon.

The operative technic so far touched on has had to do primarily with minimization of trauma to the operative or accidental wound and with removal or avoidance of mechanical or chemical irritants and excision of devitalized tissues. These have been stressed to emphasize the importance of healthy tissues in repair. Bacterial contaminants, however, are also important, and, while healthy tissues are the greatest protection against bacterial invasion, they cannot cope with excessive numbers of organisms and have little or no power to resist immediate invasion by certain types of virulent, human-acclimatized germs. Bacterial contaminants introduced at the time of injury, except in some few specific types of wounds, are seldom immediately invasive. These may be removed from the wound in sufficient numbers by cleansing, irrigation and excision, so that healthy tissues may deal with those which are left. Other organisms, and particularly hemolytic streptococci of group A, which are rarely introduced by the traumatizing agent, gain entrance into wounds as secondary invaders from the upper part of the respiratory tract and from the fingers of the patient or of one of his many attendants. The prevention of secondary invasion by these bacteria, the causative organisms of most if not all postoperative infections, is therefore of great importance. Careful protection of the wound from contamination by droplets from the nose and throat and from ungloved fingers and contaminated instruments and dressings must receive attention from the time of injury until definitive closure of the wound. It must not be forgotten, furthermore, that such contamination may be introduced during postoperative dressings as well.

One could amplify all these points of operative technic and add to them in great detail. The manner of putting on the postoperative dressing, the importance of splinting and how it should be accomplished and numerous other "wrinkles" are important; many of them are touched on by other contributors to this symposium. I have gone into the operative technic and have stressed certain details because it has seemed to me that without an appreciation of them it is useless to discuss the repair of nerves and tendons.

The manner in which nerves and tendons heal gives information as to the proper technic for repair. Peripheral nerves regenerate by a prolific downgrowth of fine axonic fibers from the central into the distal stump. These fibers are easily interfered with, and scar tissue or clots between the ends will entirely prevent recovery. Suture of nerves, therefore, should secure accurate end to end apposition of normal cross sections of nerve trunks. In the case of an immediate suture, the crushed and disrupted nerve ends should be sectioned back with a sharp blade to normal tissue. As a rule, however, in the immediate injury little and often no excision is needed. In secondary repair, however, both stumps will be found to be capped with fibrous scar tissue, and the bulbous neuroma of the central end is a tangled mass of nerve fibrils and connective tissue. By careful cross sectioning of the nerve ends the surgeon reaches a place where normal nerve bundles appear.

Sutures employed for apposition should consist of fine silk and should be introduced through the nerve sheath only and in a sufficient number to obtain complete apposition. Penetration of the nerve by sutures leads to disruption of the fibers, causes scarring within the nerve and is one of the commonest causes for failure of regeneration after suture. The fibers within the nerve are arranged in bundles, the distribution of which changes from level to level. When a segment has been removed from a nerve the bundle pattern in one stump will not necessarily correspond with that of the other. It is important, however, not to rotate stumps when suturing them. To maintain correct orientation the surgeon can place a fine suture through the nerve sheath on corresponding surfaces of the two stumps before normal relationships above and below the site of injury have been disturbed.

The repair of tendons likewise depends on accurate approximation of healthy tendon ends. Because of the relatively poor blood supply of tendons they are dependent during the early stages of healing on surrounding sheath tissues and other soft tissues in the neighborhood. During the first ten to fourteen days after suture the stumps of opposed tendons are fused to each other by a fibroblastic cuff of tissue which has formed as the result of proliferation of the connective tissues in and about the tendon. During this time proliferation is going on in the tendon as well, but it is not until the end of the second week that the ends of the tendon become united by tendon fibers. From then on the initial fibroblastic cuff becomes thinner and less dense and the central core stronger. Under favorable circumstances the cuff disappears to a large extent, its place being taken by sheets of areolar tissue which serve as a gliding mechanism. The nature of the tissues which surround the site of suture of a tendon is important since, if the early attachments have been made to dense fibrous tissue or bone, firm adhesions result. It is this factor which makes it so difficult to obtain successful repair of tendons in the fingers and which is the reason for excising a window in the fibrous sheath over the site of suture. It is for this reason also that pedunculated flaps must often be used to replace scarred skin and subcutaneous tissues at the site of the proposed restoration of a tendon. A other times it is advisable to place small grafts of fat about the site of suture. Whether they persist as fat or not is of no significance as long as they preserve a gliding mechanism.

The method of suture of a tendon should be such that the ends of the tendon are accurately apposed and that no foreign material such as a knot is allowed to come between them. The ends of the tendon on which depends the ultimate union should not be burdened with a suture or disrupted by forceps and needles. A method which has been tested out first experimentally and has now been used clinically for several years consists of a set of tension sutures which take up the pull of the tendon, supplemented by approximation sutures which pass through the sheath at the site of apposition. The tension sutures, of silk with a 4½ pound tensile strength, are introduced into each stump at about 1 to 1.5 cm. from the divided end. The suture first catches a small bundle of fibers about 1 mm. in diameter at the periphery of the tendon. The suture is knotted securely about this small bundle of fibers and is then passed straight through the tendon to come out on the opposite side. A second suture is then taken and inserted in a similar manner on the opposite side of the tendon. It picks up a small peripheral bundle of fibers just beneath the point of emergence of the first suture; a knot is tied, and the suture is then passed straight through the tendon to the opposite side to come out above the knot of the companion stitch. It is important, when the suture emerges from the tendon, that it lie in the grasp of those tendon fibers which have been caught in the knot of the opposite suture. The knot acts as a pulley over which the suture runs and which changes the longitudinal direction of pull to a transverse one at the site of attachment. Unless the suture is held over the knot by tendon fibers, it slips to one side or the other and the whole rationale of the suture is lost. A few fine 6-0 or 8-0 silk sutures through the sheath only, at the site of apposition of the stumps, keep the stumps in alinement but add little to the holding power.

Primary repair of divided nerves and tendons offers so much better prognosis than secondary repair that it should be done if at all feasible. It should not be attempted if there is any doubt that primary healing will not occur, since secondary repair after the failure of primary suture, particularly if infection has intervened, is much more difficult and much less likely to succeed. When one is in doubt, therefore, it is preferable to close the wound and plan on a secondary repair after healing has occurred. The surgeon who undertakes primary repair assumes a definite responsibility, and it is advantageous to have certain criteria by which he may decide whether or not primary repair is indicated.

Judgment as to whether or not primary suture is indicated is made from a consideration of a number of factors. The time that has elapsed since the injury should be carefully ascertained. If certain time limits have been exceeded, primary repair is a hazardous procedure. The limits vary somewhat, depending on the tendons injured. In the case of the extensor tendons over that part of their course in which they are surrounded by paratenon, a limit of four hours from injury to operating table seems safe. In the case of sheath-enclosed tendons, three hours is a safer limit, while for the flexor tendons on the fingers a limit of two hours should not be overstepped. If these limits have been exceeded it is wiser to cleanse and close the wound and plan to perform secondary repair after healing has taken place. Suture of nerves, on the other hand, may usually be accomplished within the limits during which primary closure is permissible, since approximation of the ends of nerves does not demand the extensive exposure which is necessary in the case of tendons.

Repair of nerves and tendons should not be attempted in wounds that are contaminated with human-acclimatized organisms, i. e., particularly the streptococcus group A from human sources. There is no rapid, immediate method for determining the presence of these organisms within a wound; one can only surmise whether or not they may have been introduced from a carefully taken history of the wound from the time of its inception to the time it is seen. If the wound was immediately covered with a sterile dressing and this dressing has not been removed, the chances of the wound's containing human-acclimatized organisms is slight. Few wounds except injury from a human bite and wounds from contaminated operating or autopsy instruments contain such organisms. However, they may be introduced secondarily by droplet contamination from the patient, of course, but, what is of much more importance, from any one or several of the numerous persons who have seen, examined and treated the injury. These organisms may also be carried on soiled dressings, instruments, ligatures and fingers as well as coughed or breathed into the wound by unmasked first-aid men, interns, nurses and physicians. If such sources of contamination appear probable, the repair of nerves and tendons is seriously jeopardized. If an operative procedure has been attempted elsewhere, for example in the emergency room, it is unwise to repair the nerves and tendons because of the added traumatization and the dangers of virulent contamination. If vessels have been clamped and ligated under conditions of questionable asepsis or if an antiseptic has been poured into the wound, repair of tendons is certainly inadvisable.

The condition of the covering tissues and bones should be taken into consideration. With loss of cutaneous coverage sufficient to require grafts of skin over areas of damage to tendons and with open fractures at the site of injury to tendons, repair seems best deferred until the other injuries have healed.

Finally, the surgeon should be adequately prepared with the proper instruments, sutures, assistants and anesthetist to carry out the operation. Repair of nerves and tendons on the hand cannot be done except under the best of conditions. It should not be attempted in the emergency room or in the office.

The diagnosis of injuries to tendons and nerves is well discussed by Dr. Winfield. Needless to say, the surgeon should determine as accurately as possible the extent of the damage before starting the operation. The difficulties which may be encountered in locating retracted stumps of tendons or in finding divided nerves emphasize the value of knowing beforehand what to look for. In making the diagnosis an intimate knowledge of the anatomy is essential, and in locating nerves and tendons in the operative field it is absolutely indispensable. This cannot be gained on the spur of the moment or from textbooks propped up on a chair in front of the operator.

The original wound seldom permits adequate exposure and exploration, particularly for the retracted ends of tendons, and it is usually necessary to enlarge it. To do so by making an incision at right angles to the laceration produces a cruciate wound with four flaps which come together in a point at the center, where they are sure to become necrotic, with subsequent

development of infection. This type of enlarging incision too often lies in the midline of the forearm, wrist or finger and produces a scar which overlies the site of repair and subsequently contracts and produces deformity. If the original wound does not afford adequate exposure, it may be enlarged by curving incisions from one or both ends which are removed from the site of injury and produce flaps of subcutaneous fat and skin. To describe all possibilities of gaining adequate exposure would be impracticable since no two wounds are exactly similar. However, one may be guided by certain principles. It is desired to secure flaps to overlie the site of repair, and these flaps should include the subcutaneous tissue down to and including the deep fascia. Incisions in the midline should be avoided, as should also incisions which cross flexion creases. As nearly as possible, longitudinal incisions should be made on the lateral or medial side of the fingers and forearm. Incisions on the volar surface of the fingers, wrist and forearm should run transversely or obliquely and may be combined with longitudinal incisions along the side, to obtain adequate exposure. If it becomes necessary to cross the flexion crease at the wrist or on a finger, a bayonet type of incision is advantageous, the transverse line of the incision paralleling one of the flexion creases.

The search for and the identification of nerves and tendons should proceed in an orderly fashion. It is best to isolate the nerves first, since they are more subject to injury than the tendons. As soon as they have been located they may be identified by a small silk suture and covered with a sponge made moist with saline solution. Tendons are next sought for, and as each end is found it is identified by a suture. The proximal tendon stumps may have retracted some distance proximally, and many ingenious methods have been proposed to locate them. If adequate exposure is secured the nerves and tendons are usually not difficult to find. They are also subject to less trauma during repair if the operative field is sufficiently large than if one attempts to work in cramped quarters.

Secondary repair of nerves and tendons offers excellent prognosis, provided that the original wound healed without reaction. If a reaction has occurred, however, the prognosis is not nearly so good, and the operation is often more difficult. The opportune time to attempt secondary repair and the type of procedure indicated will depend on the manner of healing of the wound, the condition of the skin and other covering tissues, the degree of mobility of the joints and the tendons which are involved.

The manner in which the original wound healed gives a clue as to the possibility of lighting up an old infectious process. If the original wound healed by primary intention with no granulating spots between sutures it may be reopened in from three to six weeks, other conditions permitting. If a mild reaction occurred, a superficial staphylococcic infection without cellulitis and fever, it is usually safe to reopen the wound in from six to eight months after healing has occurred. If, however, there was a severe infection, a streptococcic cellulitis or lymphangitis, with fever and other manifestations of general toxemia, the interval should be lengthened to twelve or eighteen months after complete subsidence of the process.

The condition of the soft tissues about the site of injury may preclude early operation even if other conditions might permit. If the tissues are hard and indurated it may signify residues of an infection or absorption of infiltrated blood. Whatever it may mean, it is almost hopeless to attempt to dissect nerves and tendons out of such tissue. At best secondary dissections are not easy, but if the surgeon is further handicapped by indurated, unyielding tissues in which all structures are matted together identification and repair may be impossible.

The joints moved by the involved tendons should be mobile before repair is done. If they cannot be flexed passively by external force it is useless to hope that the newly sutured tendon can do so. Effort should be expended to prevent ankylosis from occurring. If it is present, physical therapy and tension splinting should be instituted to relieve it. At times, operative intervention on the joints is indicated. Division of the collateral ligaments of the metacarpophalangeal joints has proved itself a most valuable procedure. Similar division of ligaments at the interphalangeal joints has not been so successful but is worthy of trial. Transplantation of fat into the joint spaces and other procedures come into consideration in case bony ankylosis is present.

It may be necessary to excise dense cutaneous and subcutaneous scars and replace them with pedunculated flaps of skin before attempting repair of nerves and tendons. A good bed and viable flaps of skin are necessary if one hopes to obtain reactionless healing and subsequent function.

I can cover only in a general way the technic of secondary repair. The incision for approach to the site of injury follows the same principles as do incisions for enlarging primary wounds. It is essential that the search for the ends of nerves and tendons be started in normal tissue above and below the actual site of injury. It is virtually impossible to identify these structures by dissecting in the scar, and only by following them from normal areas into the area of scar can one avoid injury. This dissection requires a bloodless field, as does the primary procedure, which may be secured by means of a blood pressure apparatus. After the various structures have been identified the surgeon decides what he will do to repair the injury and releases the blood pressure cuff for a few minutes. Bleeding points are taken care of and the cuff is reinflated and the operation completed.

The mobilization of nerves and tendons may necessitate extensive dissection. When the tendons have been divided at the wrist the distal segments tend to become adherent along their whole course down into the fingers. After they have been exposed at the wrist and followed into the palm their proximal ends may be grasped with moist sponges, and by gentle traction it is often possible to release them. If this fails, the finger will require to be incised along its lateral surface and the tendon released by sharp dissection. Although instruments resembling cork borers have been devised to secure this mobilization, I have never been very successful in their use.

Sufficient mobilization of the nerves to permit end to end suture may present difficulties, particularly if a previous operative attempt has been made and large bulbous neuromas are present. It is well not to excise the scars on the ends of nerves until it has been decided that suture can be accomplished. Flexion of the wrist and fingers will often produce sufficient relaxation to allow suture. The ulnar nerve may often be transposed anterior to the medial epicondyle and sufficient length obtained to permit suture. If after careful mobilization sufficient length still cannot be obtained, the surgeon

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has two recourses: He can suture the neuromas together with the joints flexed and close the wound; then, by gradually straightening the joints over a period of several weeks, he may obtain enough elongation to permit end to end suture as a second stage procedure. The other solution would be a neural graft, which is still not on a sufficiently secure basis to justify wholehearted recommendation of it. Encouraging reports, however, would seem to indicate that in time surgeons will learn how to use nerve grafts. Theoretically at least, they should be as successful as tendon grafts. I have used them in but 2 instances, and the results have not been overly encouraging. Suture of neuromas and gradual stretching, however, I have performed many times and can recommend.

Whether repair of tendons may be accomplished by suture or by tendon graft will depend on two factors. One of these is the condition of the tendon as to length and structure; the other is the condition of the surrounding tissues. Obviously, it is necessary to resort to tendon graft if end to end apposition cannot be secured after satisfactory mobilization and relaxation. If apposition can be secured only with great effort, with complete flexion of all joints and only after exerting considerable pull on the muscle, then end to end suture would result in too short a tendon. It is difficult to know under just how much tension a tendon should be sutured and, if suture cannot be done, just how long a graft to insert and under how much tension it should be sutured. I usually like to have the sutured or grafted tendon hold the involved joints in about the midposition. If the tendon to be repaired has been badly damaged and reduced to thin, irregular scar without surface gliding tissue it is usually advisable to sacrifice it and insert a graft. If the tendon has become fused with the surrounding tissues so that after mobilizing it one is left with a scarred, bleeding tendon surface, adhesions are sure to reform and compromise the end result. In such a case it is preferable to excise the tendon entirely, along with the surrounding scar tissue, and insert a tendon graft.

This is the situation which usually faces one in the secondary repair of flexor tendons in the fingers, which, as a rule, require a tendon graft. The removal of the scarred fibrous sheath in the finger leaves one without vaginal ligaments, so that a bow-string deformity is certain to occur unless the ligaments are replaced with strips of tendon or fascia.

In the case of the thumb, secondary repair of the flexor pollicis longus often requires a graft because of the great amount of retraction of the proximal stump in its long sheath.

Under certain circumstances tendon transference may be used to avoid the necessity for a tendon graft. Thus at times one may use the flexor sublimis tendon of an adjoining finger to suture to the distal stump of a divided profundus tendon. On the dorsum of the wrist the surgeon may suture the proximal end of the extensor carpi radialis brevis to the distal stump of the extensor pollicis longus.

The importance of adequate postoperative splinting for injuries of nerves and tendons, as well as for other conditions of the hand, will be discussed elsewhere in this symposium. I wish to say a few words, however, relative to how and when motion may be started safely after the repair of a tendon. I have tried to stress the significance of primary healing in the surgery of tendons, and it is from this standpoint that I have attacked the problem of splinting. Experiments have shown that the healing of tendons proceeds at the same rate as other tissue repair for the first fourteen to sixteen days. During this time healing is fibroblastic, and while the resultant union at the end of this time will withstand gentle traction it is not sufficiently strong to resist the pull of muscles. If the healing tendon during this stage is subjected to uncontrolled, active use, a drastic reaction occurs; the ends separate within the cuff, and a thick bulbous mass or callus develops at the site of suture. Sudden, unguarded use may even lead to complete rupture.

Even after three weeks of complete immobility in a cast active, unrestricted use causes a noticeable bulbous reaction, and on cutting through the bulb one may see that the ends of the tendon, instead of being in complete apposition, have separated and that the interval between them is filled with fibrous tissue stained with the residue of recent hemorrhage. Tests of the tensile strength of healing tendons show that motion of any sort before the fourteenth to sixteenth day leads to no acceleration of the curve of tensile strength over that of the completely immobilized tendon. If after this time the healing tendon is subjected to use, the curve of tensile strength tends to increase more rapidly than in the completely immobilized tendon. I have shown, however, that if this use is too active a reaction and separation occur and that these may result in adhesions and functional disturbances. It seems probable that some use is beneficial, and experimental work with restricted use has shown that motion may be started in a splint at the end of the second week with safety and benefit. This restricted use may be kept up for two weeks, after which it seems safe to allow free, active motion. It does not seem safe, however, to subject the healed tendon to strenuous activity until about six weeks after operation.

SUMMARY

Surgery of the nerves and tendons of the hand is a critical test of a surgeon's ability to operate carefully and to obtain primary healing. Success depends on careful attention to many technical details, an exact preoperative diagnosis and an intimate anatomic knowledge of the hand. Primary repair of nerves and tendons may be successfully carried out if the wound is seen early enough, if rapidly invasive organisms have not been introduced, if associated injuries permit and if proper facilities are available. If satisfactory conditions do not obtain, primary repair should not be attempted; the wound should be closed and secondary repair performed later in a clean field under more favorable circumstances.

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Exercise for the Reduction of Weight.—Exercise is a valuable aid in the treatment of obesity, provided it is used with discretion and in conjunction with dietary measures. Discretion is necessary because excessive fat throws a heavy load on the heart and circulatory system, and it may be dangerous to increase this still more by strenuous exercise. Another disadvantage of exercise is that it increases the appetite and so makes food restriction more difficult. Moderate general exercise, such as walking, and calisthenics which exercise the muscles of the abdomen and back are useful to give a feeling of well-being and to increase the tone of the tissues. It is unwise, however, for the person over 40 to carry these exercises to the point of exhaustion or shortness of breath.—Diehl, Harold S.: Healthful Living, New York, McGraw-Hill Book Company Inc., 1941.

EMPLOYMENT OF THE PHYSICALLY HANDICAPPED

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The subject of this paper is one that arouses two emotions—one of sympathy, the other of fear—each tempered by the environment in which we find ourselves. When you come on a one-legged young man, sitting sad faced at a busy street corner with cap in hand awaiting your tribute to his incapacity, you pity him. You feel that there should be some way that he could be made self supporting. Your business takes you into the transportation office of a large machinery manufacturing concern where you carry on with a pleasant middle-aged man who uses an artificial larynx to talk with you, and excuses himself while he answers a telephone call. You admire him.

Some, at least, of the personnel engaged in vocational rehabilitation and in other social work will say that industry has not given the handicapped a fair break toward employment. On the other hand, when an employer or his representative, attempting to secure an adjustment in a case of prolonged or permanent incapacity thought to be dependent on a preexisting disability, is told by the arbitrator "When your company employed this man, you either knew of his defect or, if you didn't know it, it was your business to have discovered it," he cannot be otherwise than fearful of the consequences of employing handicapped persons. He is likely to run to cover and refuse to accept them in order that the owners of the business may not be subjected to avoidable risks.

These expressions of differing opinions stimulated interest and caused me to investigate the extent and the seriousness of the problem presented by physically handicapped persons.

In order to approach the problem intelligently, it seems necessary first to define and classify as clearly as possible the handicapped to whom I refer and then to determine the extent of the problem they present.

DEFINITION

There is no common understanding, I find, especially among physicians in industry, of what is meant by a handicapped person. One will reply that every one past 40 years of age has some type of physical handicap, while another will reply that every one to whom an occupational restriction is applied is a handicapped person.

It is my intent in this paper to follow the popular concept of handicapped persons and to discuss the employment of those persons who, on medical or other inspection, present a major physical disability which is permanent. The majority of these are orthopedic disabilities, congenital or the result of disease or accident. The remainder would include those having impairment of sight or hearing, and reference is made to cardiac and pulmonary conditions.

CLASSIFICATION

Many and varied classifications of physically handicapped persons have been suggested. But for the purpose of discussing their employability I like best the following groupings, according to vocational adjustment proposed by Dr. H. H. Kessler:[1]

There is, first, the fully productive class, that group of handicapped persons who, if adequately treated and trained—and frequently without these aids—will be fit for employment under normal industrial conditions.

There is the second group of handicapped persons—the partially productive—who, in most instances, will never be fit for employment under normal industrial conditions but who would be fit for work under conditions in which their disability is allowed for. I have taken the liberty of inserting the phrase "in most instances," into this description because I am mindful of a foundry man who had been awarded compensation for permanent disability because of a rigidly flexed elbow and reappeared five years later with a perfectly functioning elbow joint, achieved through his own work effort.

A third group consists of persons who are bedridden or otherwise confined to their homes with little hope of rehabilitation. To this group should be added those so circumstanced financially or socially that they do not seek employment.

It is in the first two of these groups that I am interested.

THE EXTENT OF THE PROBLEM

One cannot satisfactorily appraise a problem without a knowledge of the matter to be covered. There is no other field of work, probably, in which it is as difficult to ascertain the extent of the problem as in this one. In fact it can be authoritatively stated[2] that no reliable census or completely satisfactory estimate of the number of persons in the country who at any one time are handicapped by permanent physical impairments or chronic disease has ever been made.

The first obstacle to a reliable census lies in the fact that there is no generally accepted nomenclature of defects. One term has a multitude of meanings; one defect may have a multitude of names.[3] Hence, in census taking involving medical diagnosis, varying interpretations of medical terminology have resulted in varying reports and unstable conclusions. The answer lies in the adoption and use of some standard set of diagnoses.

The second difficulty in ascertaining the number of the handicapped, reflects that misguided philosophy, persistent in all ages, that the presence of a congenital or adventitious deformity or disability is a thing to be denied or screened from public view. Thus it is that the parents of the handicapped young, who might otherwise be rehabilitated, frequently fail to disclose their existence, while the adolescent and the adult fail to take advantage of the opportunities for vocational adjustment that are available. There is even cause for surprise in the number of physicians, teachers and others meeting the handicapped who are unaware of the excellent facilities for rehabilitation that are available. I have been informed of a school teacher who was totally ignorant of the existence and purpose of the state department of vocational rehabilitation, located in the building just across the street from that in which she was employed. The answer to these difficulties lies in wider publicity by the federal and state vocational bureaus of their services and their excellent accomplishments.

Read before the Third Annual Congress on Industrial Health, Chicago, Jan. 14, 1941.

1. Kessler, H. H.: The Crippled and the Disabled, New York, Columbia University Press, 1935.
2. Thomas, of the Federal Vocational Bureau: Personal communication to the author.
3. Frampton and Rowell: Education of the Handicapped, vol. 2.

A third obstacle in securing an accurate census arises from the fact that many persons are unaware of their impairment because it does not seriously affect their functional capacity, such defects, for examples, as unilateral blindness, slight to moderate deafness, and hernia.

The fourth barrier, imaginary or otherwise, lies in the handicapped person's fear of the unfavorable consequence which may befall him, socially or vocationally, on its discovery. It is the bugaboo of periodic health examinations in industry.

However, over a long period of years, surveys of the physically handicapped have been made in a number of states and by various commissions and private agencies, and the recent survey by the National Health Institute justified the following conclusions nine or ten months ago when the study was started:

1. In the total population of 130,000,000 there are approximately 4,000,000 permanently physically handicapped persons, 70 per cent of whom are males, 30 per cent females. This estimate was confirmed by a house to house canvass of 153,106 persons and disclosed 3.1 per cent of the total population with physical defects sufficiently serious as to interfere with ordinary activities.

2. Of this number, approximately 1,800,000 are unemployable by reason of age; they are either too young or too old.

3. The remaining approximately 2,200,000 physically handicapped persons are in the age of employability from 17 to 64. They represent about 1.6 per cent of the total population.

At first sight this estimate may appear too small, as it did when it was prepared. It is interesting, however, to note that information from one department of the federal government cautiously suggested the figure of 2,000,000 handicapped persons, while from an analysis of a survey by a second department, an estimate of 1,900,000 seems to be proper. At any rate, they are quite alike, and the higher estimate has been increased to 2,200,000 to adjust it better to the working age group. No breakdown of the total group by specific types of disability has been found available.

4. To divide this group further into those who are totally incapacitated for any ordinary activity, those who are unemployed, those who are employed and those who are not seeking employment by reason of a favorable economic situation is most difficult.

An estimate very cautiously prepared last winter indicated that there were 300,000 handicapped employables seeking employment, leaving a balance of about 1,900,000 who are employed, employable or do not seek employment. Concerning this balance of 1,900,000 handicapped persons, data available from the larger insurance companies, our state unemployment commission, our state and the federal vocational bureaus, Department of Labor Statistics Census reports, state surveys and the National Health Survey have been studied; there is a disappointing lack of information about them and searching for it is discouraging. But since 70 per cent of injured industrial workers do not lose their skill, it is reasonable to assume that a large proportion of them are at work. After all, it appears that our problem concerns only 2.9 per cent of all persons in the working age group. By comparison, then, with the whole problem of employment, that of the handicapped is not a major one. But it is all that and much more to the person unfortunate enough to become the victim of a permanently disabling accident or disease, or otherwise to acquire a physical defect which inhibits his ability to be self supporting.

THE ANNUAL INCREMENT OF HANDICAPPED PERSONS

1. The Bureau of Vocational Rehabilitation of the United States Department of Education reports that each year in the nation 800,000 persons become permanently disabled through congenital defect, accidental injury or disease. At first sight that appears to be a somewhat staggering figure, but when it is recognized that approximately 35,000 persons are killed each year in automobile accidents alone and that there is a total of 120,000 accidental deaths from all causes, it is less difficult to realize that by all manner of accidents, by disease and by congenital defect, the ratio of 7 permanently disabled persons to each one killed does not appear so unreasonable. The National Safety Council reports that 170,000 permanent disabilities resulted from about 5,000,000 home accidents and that there were 98,000 occupational permanent disabilities in 1938 among 3,700,000 industrial workers.

2. Of this yearly total of 800,000 persons becoming permanently handicapped each year:

(*a*) Approximately 600,000 are so slightly or so moderately impaired that their functional activity is not affected, or is reduced so little that they are able to return to or to enter employment.

(*b*) Approximately 50,000 are so totally disabled that they remain permanently unemployable.

(*c*) Approximately 40,000 are either under or over the age of employability.

(*d*) Of the remaining 110,000, about one fifth, or 20,000 are cared for under Vocational Rehabilitation Programs, and a fraction do not seek employment by reason of circumstance.

(*e*) The remainder, approximately 75,000, represents the annual increment of handicapped employable persons who need some form of rehabilitation or vocational adjustment in order that they may become employable.

CAUSES OF PHYSICAL IMPAIRMENTS

1. A survey of 312,000 persons, made by the National Institute of Health, disclosed the following causative distribution of permanent physical impairments, indicating the damaging effect of accidents: by accidental injury 61 per cent, resulting from disease 33 per cent, due to congenital defects 6 per cent.

2. An analysis by the National Safety Council of 400,000 permanent, nonfatal disabilities due to accidents revealed the following causations: home accidents 41.4 per cent, motor accidents 25.6 per cent, occupational accidents 17.1 per cent, public place accidents 15.9 per cent.

3. While the first survey indicates that the majority of permanent physical impairments are due to accidents, the second survey emphasizes the fact that the majority of these accidents are either home or automobile accidents and that a man at work is relatively safe from injury. But these surveys, nevertheless, indicate that safety movements in industry and on the highways, effective as they have been, must be sustained and emphasized if the annual increment of handicapped persons is to be controlled or reduced. Very recent reports indicate a definite increase in highway and occupational accidents, especially the latter.

EMPLOYMENT POSSIBILITIES FOR HANDICAPPED

Since I began this study some months ago detailed investigation has not produced worth while statistics on the number of handicapped persons employed in

industry at any one time. Surveys show wide variations due to employment policies, the nature of the industry or the type of occupation, labor demand and supply, and the cooperation of employer and employee in disclosing physical handicaps. Many employers who do a particularly fine job in providing work for the physically handicapped are reluctant to expose it to public view. Others state frankly that they don't know who among their employees is handicapped.

What seems to be one of the best of such surveys [4] reveals that 2.3 per cent of nearly 170,000 employed persons in industry were handicapped, while 7.9 per cent of employees in the public service were handicapped. Adding the two groups, these surveys indicate that 2.6 per cent of nearly 200,000 employed persons were handicapped persons. That is an interesting finding when compared with the estimate of 1.6 per cent employable handicapped in the total working age group.

It is reported by one of the large motor industries that of approximately 125,000 employees more than 10,000, or 8 per cent, are blind, crippled or otherwise incapacitated for normal productive work. Granted that they do not produce profitably, it is evidence of a true regard for the problems of the handicapped. My information suggests that the motor industry, as a whole, is very liberal toward the employment of the physically handicapped worker.

In another manufacturing industry employing approximately 10,000 persons, 12.8 per cent were restricted in their work by reason of some physical condition. The bulk of them were on limited duty because of disabilities of the back, hernias or following abdominal surgery. Ten per cent of them were restricted because of pulmonary conditions, a large number had evident visual disturbances, of whom 2 were blind, 32 had suffered amputations, mostly fingers, 14 had appreciable hearing defects and others had miscellaneous disabilities.

A study of 1,128 employees in another industry revealed 7.9 per cent to have unrepaired hernias, 7.9 per cent to have cardiovascular disease, 4.95 per cent to have impaired pulmonary conditions; there were 33 finger deformities, 32 finger amputations, 14 leg deformities with 2 amputations, 1 foot amputation; 1 person was deaf and dumb and 17 had defective hearing.

A review of the tuberculosis problem in a business employing an average of 20,000 persons, about one half of whom are women, revealed that of 173 persons in whom tuberculosis developed in the last decade 97, or 53 per cent, have so far recovered and have returned to work.

A survey in Massachusetts revealed physically handicapped employees in 113 different industries in 149 different occupations. A survey in California disclosed handicapped employees in 290 different occupations. A national survey revealed 6,097 disabled persons in 628 different job classifications.

It is not of much assistance in the solution of a particular problem to prepare a list of jobs at which the physically handicapped are engaged, because variable circumstances control the proper placement of each person. Such a list, however, would indicate clearly that the possibilities of placement are much more diversified than have frequently been considered possible. A job analysis in any industry will disclose opportunities in which physically handicapped persons can be placed without introducing any hazard to themselves, to others or to property.

The most helpful survey of this kind available was issued in 1935 by the Department of Education of California. It was designed to show whether the job could be performed or not by a person with a given handicap, or whether he might perform it conditionally, i. e. if certain adjustments were made in the method of operation or with the aid of some artificial appliance. Twenty-eight classifications of disabilities were selected and 14,460 different jobs analyzed, a total of 404,880 theoretical possibilities in office positions, commercial positions, factory jobs, mechanical jobs and miscellaneous occupations in about equal proportions.

The number of theoretical jobs which might be filled by suitably trained workers was found to be 124,569, or 30.6 per cent, indicating the wide range of job possibilities for physically handicapped persons, actually about three out of every ten jobs.

A further analysis of the 404,880 theoretical employment possibilities indicates that 37 per cent of the handicapped can be assigned to office work, 34 per cent to commercial work, 25 per cent to factory work, 22 per cent to mechanical work and 28 per cent to miscellaneous jobs.

Dr. W. D. Stroud reports a survey of 40,000 workers directly observed in the performance of one thousand operations in twenty-five industries. It was concluded that, in normal times, of the 200,000 odd jobs in manual work in Philadelphia industries, 25 per cent, or 50,000 jobs, could be performed by persons having heart disease without compromising either the job or the worker.

In a previous paper I mentioned the fact that the condition of the labor market was an important factor in the employability of the handicapped. When unemployment is widespread and acute among normal workers, it cannot be less so among the marginal group. It is apparent to all that the national defense program has stimulated industry and increased the requirement for workers. Probably for that reason the Bureau of Vocational Rehabilitation of the United States is able to report that in the Northeastern area of the nation 3,067 physically handicapped persons have been placed in employment. Among these handicapped, 598 had undergone amputations, 1,603 had defects of the extremities, 27 were blind, 62 were deaf, 114 were deaf and dumb, 63 had cardiac disease and 182 had tuberculous impairment.

Enlightening, also, in this connection is the following paragraph, which I quote from a personal communication from a member of the federal bureau:

"The demand for skilled workers has almost completely absorbed our surplus of disabled trainees who had not previously been placed. Furthermore, our supply of handicapped disabled persons whose only need for service was a job—because they already had their skill—have practically all been placed. Fortunately at the beginning of the war in Europe we had anticipated that this country would need skilled workers and had deliberately trained as many as our funds would permit in specialized jobs, and had accumulated a large supply of those who needed placement only. The number rehabilitated this fiscal year will be much larger than any previous year."

That physically handicapped workers are generally a careful, industrious and loyal group is indicated by the following survey made in a large manufacturing plant, some 685 handicapped employees being compared with the same number of normal employees:

Seven and nine tenths per cent more normal workers resigned than handicapped workers.

Seven per cent more absences among normal workers.

4. California.

Five and six tenths per cent fewer accidents among the handicapped workers.

Seven and four tenths per cent more discharges for cause among normal workers.

Four and six tenths per cent increased earnings for the handicapped as compared with 4 per cent for the normal workers.

From these analyses, the suitably trained handicapped person may well take courage in his search for employment when employment is available to any one, when employment managers appraise functional capacity rather than the handicap itself and when employers are not likely to be doubly penalized in the event of a second injury.

Much depends on proper placement and much depends on the morale of the person.

Physically handicapped persons differ from one another as do normal persons in mental and temperamental characteristics. Frequently the deciding factor is the spirit of the person to succeed in a job in spite of his physical handicap. One man who submitted to a laryngectomy because of cancer returned to his regular occupation and has carried on successfully for eight years with the aid of an artificial larynx. A second man, under almost exactly similar circumstances, committed suicide.

A while ago I visited a project in which 106 persons presenting all manner of permanent physical defects were employed. The man in charge, about 40 years of age, was on crutches, both legs made useless by infantile paralysis at the age of 7. He went easily up and down the stairway showing me about. He was asked about his past and replied that he had been a printer for fifteen years until the depression closed the business, that his former boss had twice attempted to engage him at a new plant but nothing came of it, for which he blamed the insurance company; he said that he had never been injured while at work. While that is probably not a fact, nevertheless he expressed the feeling that the employment of these physically handicapped persons unnecessarily increases the costs of industrial accident compensation.

In a bulletin issued by the Bureau of Labor Statistics on the "Causes and Prevention of Accidents in the Iron and Steel Industry," one finds fourteen pages devoted to a study of the human causes of accidents, but nowhere is mention made of physical handicaps as a cause.

In the most recent report issued by the Industrial Accident Commission of our state, 30,000 accidental injuries are tabulated. They are all accidents to which the normal person is exposed just as well as the handicapped.

The feeling that the handicapped group introduces an unnecessary hazard into industry has been overemphasized, I believe. The experience of many physicians in industry and of impartial examiners agrees with that of Dr. A. F. Lecklider, who stated "Physical examinations most often were completely negative in our worst accident cases. We tend to attach too much weight to physical defects. More often I was impressed with the mental or character type of the injured individual than I was with his physical setup."

Of all the disabling so-called lumbar strains occurring in the last two years in the company with which I am affiliated, the most acute and long lasting was in a man under 30 years of age. His examination revealed no evidence of structural defect or of arthritis so frequently held to be the underlying cause of disability.

The fear of second injury, of adding a permanent defect to one already existing, was so great that provisions for a second injury have been written into workmen's compensation legislation in many of the states. Yet the fact remains that a second disabling injury is of infrequent happening. Out of nearly 34,000 tabulated injuries in Massachusetts in the year ended June 30, 1938, there were three second injuries for which compensation was awarded, a second injury experience of less than 0.0001 per cent. Is that serious enough to erect a barrier against the employment of these persons? In my state the supervisor of rehabilitation reports that there has been no litigation for second injury concerning any rehabilitated worker.

Because it agrees with my observation of the safety with which one-armed men, one-legged men, one-eyed men and women, those crippled with infantile paralysis on crutches or with crooked spines and others with physical handicaps in our company perform their work, I conclude with a paragraph taken from a personal communication from the federal vocational bureau concerning the effect of the national defense program:

> The employment of large numbers of trained skilled handicapped workers has had the effect of calming the fears of many employers that handicapped persons are more apt to suffer a second injury, and hence cause a boost in their workmen's compensation rates. Many firms that previously refused to employ disabled workers are now asking for them. They are finding that the percentage of injuries to disabled workers is actually less than for nonhandicapped workers and that a disabled person placed in the proper job is just as efficient as the nonhandicapped person.

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AGING AS AN INDUSTRIAL HEALTH PROBLEM

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Most arguments arise out of confused definition of terms. It is important, therefore, to have it understood what is meant by the problems of aging. Aging must not be confused with the aged. The aged show the consequences of aging. This distinction is fundamental. The medical care of the aged constitutes the specialty of geriatrics and is of but little direct concern to industry. The truly senile are pensioned. On the other hand, gerontology, which is the science of aging,[1] is of rapidly growing importance to the industrial physician. Probably the most significant period of human life from the point of view of senescence is the two decades from 40 to 60. It is here that gerontology can and should mean prophylactic geriatrics. Prophylactic pediatrics, by dramatically increasing life expectancy, has emphasized the problems of senescence. Pediatrics advanced rapidly only after attention was focused on the fact that the child is not merely "the little man" but presented nutritional, immunologic, functional and anatomic problems peculiar to infancy and childhood. A similar focus of emphasis on the problems of senescence should accelerate progress in effective preventive medicine for the later years of life. In the brief time allotted I can hope to point out only a few of the major problems and perhaps offer some suggestions of means by which these vexing questions may be attacked.

Read before the Third Annual Congress on Industrial Health, Chicago, Jan. 14, 1941.

From the Unit on Gerontology, Division of Chemotherapy, National Institute of Health, U. S. Public Health Service.

1. Gerontology, editorial, Ann. Int. Med. 14:737 (Oct.) 1940.

PROBLEMS OF AGING

The problems of aging are readily classified into three major categories:

1. *The Biology of Senescence as a Process.*—Aging is a part of living. Both evolution and involution are functions of aging. The basic phenomena are amenable to study by many disciplines.

2. *The Clinical Problems of Human Senescence.*—These are obviously further divisible into normal aging and the problems arising in connection with those diseases whose incidence rises with advancing years. Aging brings many changes, some obvious, many obscure, but all insidious and inevitably progressive. Structural alterations, changing psychologic characteristics and biochemical and physiologic differences are all involved. Thus "normal" is not a fixed point but a series of variables which change with age. The distinctions between the changes of normal senescence and certain of the so-called degenerative disorders are not sharply defined. Certain vascular, renal, cerebral and metabolic changes are part of aging per se. The phenomena of disease are always exaggerations of normal reactions rather than of new mechanisms.

3. *The Socioeconomic Problems of Aging.*—These arise out of the shifting average age of the population. They are immense, complex and increasingly urgent questions. If one pauses to think of the implications of the fact that life expectancy has increased from about 47 to over 63 since the turn of the century and that conservative estimates anticipate that in another forty years more than 40 per cent of the population of this country will be 45 years of age or older, the immensity of these problems becomes obvious. The wise answers to these problems, however, are far from being clear. It is with the search for these that every one must concern oneself, for logic inexorably leads to the conclusion that either these increasing millions of elderly persons must have the opportunity to work and support themselves or the proportionately smaller group of younger persons will have to support them in one way or another. One answer implies productivity suited to capacity, the other destructive costs on what may ultimately become a minority.[2] The present and impending situations are wholly unprecedented: an average population age far in excess of anything known heretofore. The primary concern of medicine is with the first two of these three major categories, but the industrial physician cannot ignore the sociologic and economic factors involved.[3] Illumination by research of the basic processes of senescence, the biologic and psychologic changes and the altered capacities will facilitate solution of both the clinical and the sociologic problems.

The change in population age is reflected in industry. Certain larger organizations have become acutely aware of the fact that the average age of their employees is increasing at a surprising rate; almost a year annually in one immense manufacturing concern! This has occurred despite the fact that until recently the vast numbers of unemployed permitted and encouraged the selection of younger men. In the present emergency the shortage of trained personnel for technical jobs and the diversion of young men into training camps can but operate to accelerate the rise in average age of employees in most industries. War would further exacerbate the situation.

2. Clague, E.: Milbank Memorial Fund Quart. **13**: 345 (Oct.) 1940.
3. Piersol, G. M.: Ann. Int. Med. **12**: 964 (Jan.) 1939.

CHANGE IN INDUSTRIAL MEDICINE

The practice of medicine is changing. As acute infective diseases fall more and more under the control of preventive measures, the chronic and progressive disorders of middle and later life take increasingly important places. Industrial medicine, which started out as emergency traumatic surgery and then grew to include hygiene and toxicology to prevent industrial disease, has but recently become aware of the potentialities of preventive medicine. It is necessary only to recall that sickness absenteeism of nonindustrial origin is responsible for about twenty times as much lost time as industrial injuries of all sorts in order to appreciate the fundamental importance of preventive medicine. Industry is in an exceptionally strong position to foster adult preventive medicine. The factory stands in much the same relationship to the adult that schools hold in relation to the child. The role of the school in developing prophylactic pediatrics was and is significant. With the industrial worker under medical supervision in the plant one third of his time, the industrial physician has opportunities for education in hygiene and for preventive medicine which are unique. Preventive medicine for adults must include consideration of senescence.

Space does not permit discussion of the relationships of age to rehabilitation, to the complexities of compensation laws with reference to the exacerbation of preexisting disease, the placement of older workers so that maximum value of their experience may be reflected in production, the relation of age to the incidence of neuroses, the psychology of senescence [4] and many more significant questions. These questions can be asked now and should be answered soon. A recent statistical study [5] confirms the previously discovered fact [6] that the frequency of industrial injuries diminishes with age, though the severity and duration of disability increase slightly.

The physician concerned with industrial medicine properly includes among his responsibilities health maintenance of employees. His problems with older workers are not the same as with younger persons. How effective will be his prophylactic geriatrics depends on at least three significant variables: (1) advances in the science of gerontology and the practice of geriatrics, (2) the extent with which the industrial physician keeps abreast of advancing knowledge and (3) the conscientiousness with which this is applied.

It has been said that in the practice of industrial medicine the factor of age has for a long time been given due and adequate attention and that perhaps efforts to focus attention on age as an industrial health problem is the equivalent of a tempest in a teapot. In this attitude I cannot concur. Although the practice of medicine, as a whole, has for many years taken care of older persons as well as younger, it is entirely unjustified to assume that the care has been as effective as it might be. In the clinical practice of industrial medicine, one of the most important activities is the examination of prospective employees to determine physical fitness. Unfortunately such examinations have applied rather arbitrary standards of physical fitness without consideration of the age variable and, frankly, without adequate definition of what constitutes health. Health is not the mere absence of disease. Health is a relative and a quantitative matter, and those who are truly and

4. Lawton, G.: J. Social Psych. **12**: 101, 1940.
5. Kossoris, M. D.: Labor Inform. Bull. **7**: 11 (Nov.) 1940.
6. Vernon, H. M.: Accidents and Their Prevention, London, Cambridge University Press, 1936, p. 346.

fully normal are great exceptions. Health evaluation is often a more difficult and complex problem than the diagnosis of disease. The changes of aging affect the criteria of health.

CHRONOLOGIC VS. PHYSIOLOGIC AGE

Chronologic age, as measured in years and months, is not the same as physiologic age. Rare is the man on the shady side of 50 who is not thoroughly convinced that he is younger than his years. Sometimes he will be right; all too often the conviction is naught but wishful thinking. Physiologic age varies with each person. The greater the duration of life the greater the variation. Furthermore, no person is of the same physiologic age throughout, for different structures and systems age at different rates at various times in the same person. At certain ages, involution of certain structures is accelerated. For example, thymic involution is rapid in infancy and the generative organs age most quickly at the climacteric. Mental senescence may come prematurely in some; in others the continued brilliance of the intellect appears to defy the corporeal senility. Osler said "a man is as old as his arteries," but it would be equally sound to say that he is as old as his vision or his imagination. There are many with presbyopic vision who retain the imagination and the enthusiasm of youth. Because of this variability in the rate of senescence in different structures, no single criterion of physiologic age will ever be feasible.

Aging is a continuous process, though the rate is variable. It does not begin on any certain birthday some time in the forties or thereabouts but starts on the conception of a new individual. Aging progresses most rapidly in the fetus and infant, less quickly during childhood and more slowly after puberty. It is fundamental that it be remembered constantly that the aged are the consequences of aging and that the pathogenesis of senescence starts in youth. It will then not be forgotten that more can be accomplished for the aging than for the aged.

Aging does not necessarily mean decline alone. It is axiomatic that compensation takes place for every deviation. Though certain functional capacities diminish, others are enhanced. For example, as speed of reaction is lowered with age there occurs a compensatory increase in endurance. This has been revealed in a number of different ways: In athletic performance there is a positive correlation between success in competition requiring endurance and full maturity. The world records for sprints are held by very young men, but the records for the marathon have been made by men well over 30. Far greater differences in endurance and reaction to exercise are found in persons in the same age groups than are observed between younger and middle aged subjects.[7] Loss of mere physical strength is often compensated for by increased skill and judgment.[8] Though ambition may become less virile, the pride in good work well done and the reestimation of values which come with maturity may compensate, particularly if an honest recognition of limitations is included in the mental changes of aging. It is not merely a coincidence that the engineers of the crack trains, that the captains of the most important ships and that the directors of the greatest industries are old men.

7. Dill, D. B.: Indust. Med. **8**: 315 (July) 1939. Robinson, S.; Edwards, H. T., and Dill, D. B.: Science **85**: 409 (April 23) 1937.

8. Miles, W. R.: Age and Human Ability, Psychol. Rev. **40**: 99, 1933.

The question of how physiologic age may be measured and evaluated is perhaps the most significant of all the clinical problems. A general impression is instinctively arrived at by the physician by means of that peculiar and indefinable something which is called clinical judgment. However, there is little precision in such evaluation and it is by no means standardizable from the point of view of the reactions of the individual to employment. It is my feeling that the most logical approach to quantitation of physiologic age is through the measurements of several functional reserve capacities. Depletion of reserve occurs long before there is actual failure. This depletion is detectable only by controlled stress procedures which elicit responses to increased physiologic work. For example, it takes a panic to reveal the weakness of a bank; it takes a steep hill or, even better, a proving ground to reveal the weak spots in an automobile. Applying this basic principle clinically, one may say that a single observation of a normal pulse rate or a normal blood pressure at rest does not reveal how the circulatory system will react under conditions of stress. For example, a procedure involving exertion or the cold pressor test [9] will be infinitely more informative.

It is vitally important to recognize that with increasing age individual variability likewise increases. It has just been mentioned that studies in fatigue showed greater differences between persons in the same age group than between the averages of various age categories. Individuality is a composite of inherited and inherent characteristics and the accumulative vicissitudes of existence. Generalities concerning babies are far more justified than generalities concerning the same individuals forty or more years later, for each and every person has accumulated a highly personal set of experiences, infections, intoxications and mental actions and reactions. The greater the age, the greater the individual variability. Though the baby knows nothing and the mature adult, if honest, may likewise admit knowing nothing, the latter should at least suspect a great deal.

INDUSTRIAL HEALTH

This greatly increased individual variation in older persons is important to industrial health in many ways. In the measurement of functional reserve, in the placement of older employees and in therapy and prognostication of disease in older persons the industrial physician must avoid standardized routine if he hopes to utilize the best that older persons have to offer. And that is just what American civilization is going to have to do if our culture is to grow.

Those diseases whose incidence rises with advancing age will become inevitably more and more frequent problems both in the field of employment and in periodic health inventory of personnel. First and foremost in this group are the cardiovascular-renal disorders.[10] Arthritis [11] is deceptively insidious, for the low mortality does not reveal the immense toll of disability. The National Health Survey [12] revealed that arthritis (all forms) was first as a cause of disability (if mental disease was excluded), second as a cause of permanent invalidism but only fourteenth as a cause of death.

9. Hines, E. A., Jr., and Brown, G. E.: Ann. Int. Med. **7**: 289 (Aug.) 1933. Stieglitz, E. J.: Abnormal Arterial Tension, New York, National Medical Book Company, 1935.

10. Stieglitz, E. J.: J. Michigan M. Soc. **39**: 827 (Nov.) 1940. Stroud, W. D.: The Diagnosis and Treatment of Cardiovascular Disease, Philadelphia, F. A. Davis Company, 1940. Stieglitz.[9]

11. Osgood, R. B.: Am. J. M. S. **200**: 429 (Oct.) 1940.

12. National Health Survey: Report of the Surgeon General of the U. S. Public Health Service, Washington, D. C., Government Printing Office, No. 6, 1935-1936.

Diabetes mellitus, all forms of cancer and both the masculine and the feminine climacteric will inevitably be of increasing concern to the industrial physician. The gynecology of senescence has been sadly neglected. Obviously these immense clinical problems cannot be discussed here, though emphasis of one basic concept is necessary. In evaluating the degree of physical impairment in industry, it is extremely important to distinguish between physical defects which are relatively stationary and those disorders which tend to progress. It is characteristic of all these so-called degenerative disorders of middle and later life that they are progressive. True enough, often the progression is slow, but it is invariably and inevitably persistent. None are self-limited diseases tending toward spontaneous cure. The best therapeutics cannot "cure" hypertensive disease, gout, diabetes or chronic arthritis. These disorders, however, can be controlled and the progression greatly retarded. The earlier in the course of these diseases control measures are instituted, the more effective is the therapy. This is prophylactic geriatrics.

It is the rule that the earlier in life "degenerative diseases" begin, the graver is the outlook and the more rapid the deterioration.[13] Though there may be isolated exceptions to this rule, the clinical assumption is amply justified by experience. Hypertensive disease in a young man implies a much poorer prognosis than the same "severity" of hypertension in a man of 55. Hypertension should never be ignored, but it becomes clear that aging may affect prognoses favorably as well as adversely.

These are entirely different problems from those concerned with employability of those with static or non-progressive defects.[14] An amputated finger, an ankylosed joint or the loss of one eye will not progress with time, and the risks are calculated on entirely different bases.

Industrial medicine can do much to improve clinical methods of health evaluation, help develop practical procedures for the measurement of functional reserve capacities and thus assist in establishing the urgently needed base lines for the mensuration of physiologic age. Not only do industrial physicians have the opportunity to examine hundreds of thousands of new employees each year, but they have the invaluable privilege of reexamining these same men and women at periodic intervals for many years and thus checking the accuracy of the original prognostication. Suppose John Smith "passes" his preemployment examination but in subsequent years loses an inordinate amount of time because of sickness absenteeism.[15] This should immediately raise the following questions: Was something missed on the original examination? If so, what? And why? Can procedures be improved to correct such errors? Has his repeated absenteeism anything to do with his work or industrial environment? Is he in the wrong job? And many more. The industrial physician can, if he will but try, answer many of these questions. In the aggregate such analyses will become increasingly valuable.

JOB PLACEMENT

In job placement, thought must be given not only to the immediate capacities of the employee but also to his future capacities. Physical fitness implies not only the capacity to work but continuity of productiveness.[16] Youth is molded with relative ease; with advancing years adaptation is more difficult. But it is not impossible. The difficulty lies more in the speed with which adaptation occurs than in the final effectiveness. As previously pointed out, aging brings compensations as well as defects. Cannot these compensatory characteristics be utilized? They can. It is not necessary that the aging mechanic or artisan whose speed is reduced but whose skill and judgment are becoming greater be discarded or transferred to sorting bolts and nuts in the junk shop or to watching a gate. Such a transfer is equivalent to the judicial decision "You are through—useless. You've worked hard and we'll feed you for it, but no longer may you feel pride in your work or have the precious satisfaction of feeling really useful." All know of intimate instances in which such premature retirement was but the herald of a death certificate. Under such blows even the best men quit. If, however, they may feel that they are sharing in the work to be done and are permitted to give their best, it is the best which is obtained.

Such relegation to enforced idleness and obligatory pensioning is not necessary. There are many very useful things that the aging and aged worker may do, and do better. Direct competition with youthful strength in a production line may be unwise, despite increased skill. Such unequal competition leads to neuroses. But in some larger plants, parallel production lines running at a slower tempo are feasible or a greater number of men may be assigned to a portion of the work so that frequent short rest periods are possible. One well known factory has several employees over 80 years of age continuing at the same pay and with responsibility for fine precise work. Inquiry as to the reason for this rather unusual situation elicited the statement that the value to plant morale and *esprit de corps* was immeasurable. Industry must not forget these factors.

The employee of 60 and over has important potentialities as a teacher of new or younger employees. Industry is now suffering from an acute dearth of technically trained personnel. The education of apprentices and the development of finer skill, application of accuracy and pride of workmanship can well be a function of the older workers. It is saddening to see the generalized loss of respect for the dignity of work in the younger generation. Perhaps our older men and women will welcome the opportunity to rekindle this vitalizing spark. Not satisfied to just "get by," they can set splendid examples if given the chance.

Permit me one more thought in connection with industry's better utilization of the older worker. Is it not feasible to train aging employees gradually for occupations more suited to their capacities and limitations? The notion persists that older people do not and can not learn. This is untrue. True it is that they learn more slowly and that interruptions in the habit of learning create great handicaps. But this is likewise so in youth; the lad who quits school and then returns has difficulty in readapting himself to study. On the other hand, if study is continued the habit becomes ingrained and the ability strengthened. This is clearly demonstrated by physicians: if we as a profession ceased study and training on graduation, it would be a sorry state of affairs. Is it logical, therefore, that those in other occupations be trained and taught only to a certain fixed point and that then all opportunities for technical

13. Stieglitz, E. J.: Arterial Hypertension, New York, Paul B. Hoeber, Inc., 1930.

14. Paul, G. A.: Indust. Med. **9**:79 (Feb.) 1940. Lynch, D. L.; Engel, R. C.; Hazlett, T. L.; Schram, C. F. N., and Shaffer, F. E.: Indust. Med. **9**:441 (Sept.) 1940.

15. Lanza, A. J., and Vane, R. J.: Absenteeism in Industry, Bull. 4, Medical Series, Air Hygiene Foundation, Pittsburgh.

16. Kessler, H. H.: The Determination of Physical Fitness, J. A. M. A. **115**:1591 (Nov. 9) 1940.

education cease? No. With proper pedagogy and with continuity of technical training, there is no reason whatever why aging workers may not be continuously prepared for more and more technical responsibilities definitely compatible with their capacities. A pilot study attempting to do just this under the guidance and on the suggestion of a modern industrial medical department should prove invaluable. Certain industrial concerns have organized procedures for the diversified training of younger employees. I fail to appreciate why such technical training should not continue, though at a lessened pace, throughout the productive years.

PERIODIC EXAMINATIONS

The importance of periodic reexaminations has been stressed repeatedly and emphatically. But such reexaminations are not enough if they are superficially conducted and nothing is done beyond the recording of data on record cards. Unfortunately, this is all too frequently the case with periodic examinations not only in industry but in the practice of medicine as a whole. In many quarters periodic health inventory has fallen into disrepute not because of any inherent weakness of the principles involved but because of the negligible application of preventive treatment. A health inventory is far more than a mere clinical physical examination. It should include a detailed interim history, discussion of habits of living, laboratory information, function test procedures and, most important of all, advice concerning active therapy of early disorders to retard progression before it is too late. It is essential that the patient have explained his share of responsibility in health maintenance. Such periodic analytic inventories, if properly conducted, constitute the basis for personal preventive medicine.

With the aging employees such consultations acquire greatly increased significance, for the disorders of later and middle life are not amenable to mass prevention as are infective diseases. As people become more and more individualized with aging, so must the application of preventive medicine. Mass production is effective only as long as the units produced are identical. As the person grows older he deviates more and more from uniformity, and medical care must similarly become less and less routinized.

It is realized that it has been difficult to convince both management and labor as to the values of periodic medical examinations. Perhaps it might be easier to sell the procedure if these examinations were made more effective by including more sound medical advice to the individual. The profession must never deviate from the rule that if it is worth doing it is worth doing right. The value of properly conducted prophylactic consultations is unquestioned.

Personal preventive medicine in industry should start at the top. This is important for a number of reasons: 1. The key men are the most difficult to replace, and their judgment and experience constitute valuable national as well as company assets. 2. The leaders are almost invariably older persons in particular need of active and energetic health maintenance. 3. They carry the heaviest responsibilities. 4. Their acceptance of such prophylactic measure sets the necessary example for their organization. Who should lead in setting a good example? None other than the physician! Let us not neglect the educational potentialities of proper personal preventive medicine or prophylactic geriatrics among ourselves and remember that, though it is easier to fight for our convictions than to live up to them, it is often less useful.

Clinical Notes, Suggestions and New Instruments

A DIVING APPARATUS FOR LIFE SAVING WORK

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Frequently drownings occur in spite of apparently adequate patrolling of beaches and lakes by trained lifeguards. A swimmer who, because of panic or exhaustion, sinks beneath the surface of the water is usually quickly lost to sight. The task of the lifeguard is to swim down under water, holding his breath, in an attempt to locate the drowning person. Holding the breath while undergoing the exertion of swimming under water is extremely tiring. Rarely can an untrained person remain under water in this manner for more than one minute or dive deeper than about 30 feet. When the lifeguard does come to the surface for air he is exhausted, and his successive dives will necessarily be shorter and shallower until finally

Fig. 1.—The apparatus in position, front view, showing lead plate, soda-lime container and inhaler.

he can no longer continue. Valuable time is wasted in coming to the surface for air, and time is an all-important factor in an emergency of this sort.

An apparatus which permits respiration under water for an extended period of time in depths far greater than a person could withstand unaided should prove valuable in instances such as the one described. This would be especially true if the apparatus could be quickly put on and were an independent unit, making the diver completely self sufficient while below the surface. The apparatus described here permits respiration under water for eighteen to twenty-five minutes in depths to 60 feet.

The foundation for the respiratory apparatus, which is the functional part of the diving equipment, is a relatively simple harness designed primarily for rapid donning. The harness is designed to fit persons of varied shape and size without time-consuming adjustment. A pocket for carrying a small cylinder of oxygen or a nitrogen-oxygen mixture is at the back of the harness (fig. 2). At the front of the harness, over the abdomen, is a small plate of lead, weighing approximately

Prof. H. C. Bazett of the University of Pennsylvania Medical School gave advice on physiologic aspects of the problem, and the Ohio Chemical Company gave assistance in developing the mechanical equipment.

3 pounds (1.3 Kg.), which serves the twofold purpose of weighting the apparatus and of providing a base to which is fastened a container of soda lime (fig. 1). The total weight of the harness and respiratory apparatus is about 12½ pounds (5.7 Kg.). Metal rings on the belt provide for the attachment of additional weight, which is necessary if walking under water is to be efficiently accomplished, since the apparatus was designed primarily for swimming under water.

Simply, the respiratory apparatus is a rebreathing system composed of an inhaler, breathing tubes, soda lime container, rebreathing bags and a supply of oxygen. The oxygen reservoir is a small cylinder containing 51 liters of oxygen at 1,800 pounds pressure and 70 F. The weight of the cylinder filled with oxygen is 3 pounds 14 ounces (1.7 Kg.). A single stage regulator attached to the oxygen cylinder reduces the pressure and delivers a flow of 2 liters per minute for twenty-five minutes at atmospheric pressure. There is therefore a continuous flow of oxygen in excess of body requirements under conditions of maximal work. The flow of oxygen increases slightly with depth of diving, because of the construction of the regulator; therefore the time limit of a 60 foot dive is eighteen minutes rather than the expected twenty-five minutes.

Fig. 2.—Back view, showing oxygen cylinder and breathing bags.

The rebreathing bags of latex rubber are in duplicate, one bag being fastened behind each shoulder, thus giving optimum balance and maneuverability to the diver. The total capacity of the rebreathing bags is 4 liters. This volume is far in excess of normal tidal respiration. However, there are three reasons for the apparently excessive size of the bags: 1. On rapid descent increasing water pressure compresses the gas in the bags until at 30 feet less than 2 liters remains. Rapid descent to greater depths results in compression of the gas to a volume too small for a complete inspiration. Several minutes must pass before the bags are completely refilled. 2. Exercise and low water temperatures result in increased formation of carbon dioxide and therefore deepen respiration. 3. There is some slight respiratory stimulation due to carbon dioxide in the "dead space" of the apparatus, especially at depths greater than 30 feet. As pressure increases, more gas is compressed into the dead space and carbon dioxide tension rises. At 60 feet this effect is pronounced.

Within each breathing bag is a perforated metal tube which prevents air from becoming trapped as the bag mouth constricts on inspiration. When the apparatus is in use the breathing bags are most often in an inverted position, with the mouths downward. Gas therefore rises in the inverted bags, bulging the upper portion and leaving the lower portion (neck) constricted. On sudden inspiration the reduction in pressure inside the bags results in a compression of the bag neck which would trap the oxygen within the bags if it were not for the drainage afforded by the perforated tubes.

A pair of corrugated latex rubber tubes connects the paired breathing bags with the soda lime container by means of a metal T connection. In each corrugation is a metal ring which prevents collapse of the tubes on inhalation due to the slight reduction in pressure within them. As the tubes are extensible, they fit snugly a variety of bodies.

Economy of oxygen and, therefore, increased duration of possible diving time result from the use of a "to and fro" soda lime container to extract carbon dioxide, permitting rebreathing of expired gases. Oxygen from the rebreathing bags is breathed back and forth through the soda lime container which is attached to the lead plate on the front of the harness. The soda lime in the container will remove carbon dioxide efficiently for about two hours under conditions of moderate work.

Connecting the soda lime container with the inhaler, or mask, is a short, corrugated rubber tube, containing metal rings as did the previously mentioned breathing tubes. These rings, while preventing collapse of the breathing tubes, in no way detract from their flexibility and permit free movement of the head. This tube and the inhaler comprise the artificial dead space of the apparatus.

Of the inhaler little need be said except that it is the oronasal type with a thin, flexible edge to insure fit on a variety of facial structures.

An overpressure, or exhaling, valve situated below the inhaler prevents overdistention of the system by permitting the escape of excess gases. The valve is set at a light tension with limits of 8 and 13 mm. of mercury, which requires that the breathing bags be filled by an expiration before pressure of gas can open it. Since the valve is situated just below the inhaler, it is the latter part of the exhalation, containing the highest percentage of carbon dioxide, which escapes. This action supplements the function of the soda lime container in lowering the carbon dioxide content of the system. The valve is so constructed that gases can be exhaled through it without allowing water to enter the rebreathing system. On descent the valve is turned clockwise to the 13 mm. stop, increasing the valve tension. This prevents loss of oxygen from the system while the gas in the rebreathing bags is being compressed by water pressure. Loss of gas on descent would decrease still further the volume of gas available for respiration which had already been decreased by compression. When at the lower level of the dive the valve can be turned counterclockwise to the 8 mm. stop, facilitating the escape of excess gases.

Oxygen enters the system just below the exhaling valve and is therefore poured into the dead space above the soda lime container, diluting the carbon dioxide there and lowering its tension. The dead space is therefore rendered less effective. The apparatus can be used to the full duration of oxygen flow without fear of anoxia as the flow ceases. The oxygen concentration is well over 90 per cent and the slow, gradual emptying of the breathing bags due to utilization of oxygen gives ample warning (three to four minutes) that oxygen has stopped flowing.

The total weight of the apparatus slightly exceeds 12 pounds in air; when submerged it is practically weightless. The breathing bags, breathing tubes and inhaler all are buoyant under water. The underwater weight of the oxygen cylinder, regulator, soda lime container and lead plate balances almost exactly the lift of the buoyant parts of the apparatus. This nicety of balance between buoyancy and sinking tendency enables the diver to ascend or descend at will. There is therefore complete independence of aid from or connection with the surface, such as pumps, ropes, air line or assistants. The position of the breathing bags, oxygen cylinder and lead plate provides optimum balance to the body of the diver.

The apparatus is extremely simple to use. It can be put on and be in use in fifteen seconds or less. Self sufficiency is its outstanding feature, in regard both to oxygen supply and

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to aid from the surface in descending and ascending. The latter may require some explanation.

With the bags filled initially with an exhalation of air, and with oxygen flowing, descent is accomplished by a single upward sweep of the arms through the water, submerging the body. The resulting compression of the gas in the breathing bags by water pressure decreases the buoyancy of the apparatus, aiding descent. Descent can be rapid to about 30 feet and then should be slower so that the oxygen entering the system can maintain the gas volume in spite of compression. If a diver descends rapidly to depths greater than 30 feet he will find himself temporarily unable to breathe because of compression of the gas in the bags to a volume insufficient for inspiration. Ear pressures are equalized on descent by swallowing, since regardless of depth the pressure of the gas breathed approximately equals the water pressure on the outside of the ear drum.

Ascent is accomplished by swimming motions. The expansion of oxygen in the breathing bags due to decrease in water pressure increases the buoyancy of the apparatus, facilitating ascent. On ascending a large quantity of oxygen will bubble from the exhaling valve. This is a result of the expansion of oxygen on releasing the water pressure which had been exerted on it. Despite the loss of this oxygen the breathing bags will still be full when the diver reaches the surface.

The diver may ascend as rapidly as desired without fear of the "bends." The short duration of the dive and the absence of nitrogen in the system eliminates this danger.

The apparatus, as it employs pure oxygen, should not be used at depths greater than 60 feet because of the toxicity of pure oxygen at pressures over 3 atmospheres, resulting in convulsions. However, for diving at depths greater than 60 feet a mixture of nitrogen and oxygen can be used. The nitrogen serves to dilute the oxygen, decreasing its tension and therefore its toxicity. For example:

A mixture of 40 per cent nitrogen and 60 per cent oxygen could be used with safety at a depth of 100 feet, a pressure slightly greater than 4 atmospheres. Disregarding the negligible effects of water vapor and carbon dioxide tension in the system for simplicity, one can see that at 4 atmospheres the partial pressure of the oxygen in the mixture will be 0.60×4, or 2.4 atmospheres. This partial pressure is well below the limit of 3 atmospheres above which oxygen is toxic. The partial pressure of the nitrogen in the mixture at 4 atmospheres is 0.40×4, or 1.6 atmospheres. This is equivalent to the partial pressure of nitrogen in air under 2 atmospheres' pressure (0.80×2), or a depth of approximately 32 feet. Under this partial pressure nitrogen will have no effect in producing bends.[1] By the use of helium in place of nitrogen for diluting the oxygen the practical depth could possibly be increased.[2] This, however, is theoretical.

Since the apparatus described was designed for use in depths of less than 60 feet a modification decreasing the artificial dead space would be necessary to make diving to greater depths possible. Without such a change the tension of carbon dioxide in the dead space would rise to an uncomfortable degree.

To summarize briefly, the limits of the underwater respiratory apparatus are those of time and depth. Although in shallow water (to 10 feet) oxygen flows from the cylinder for approximately twenty-five minutes; at 60 feet, because of structural peculiarities of the reguiator, oxygen flow per minute is increased, shortening the possible diving time to about eighteen minutes. The duration of a dive can be extended by the use of a larger cylinder oi oxygen, but this would be of little advantage in life saving.

The depth to which diving with this apparatus is practical is determined by several factors. If one uses pure oxygen, which is toxic at pressures greater than 3 atmospheres, even for short periods, the limit is approximately 60 feet. This limit can be safely increased to 100 feet or more by proper dilution of the oxygen with nitrogen or helium. Thirty feet is the limiting depth for an extremely rapid dive because of a decrease in the volume of gas available for respiration as a result of compression. However, by descending slowly from this level or by incorporating a by-pass or accessory cylinder for more rapid inflation of the breathing bags, greater depths can be attained.

Perhaps one other limiting factor is the capacity of the diver to withstand exposure, since the body is unprotected against loss of heat while under water. For prolonged deep diving, some means of insulating the body is necessary. A light diving suit may be used for this purpose but would require additional weights to counteract its buoyancy.

The uses of this apparatus are varied. It was primarily intended for rescue of drowning persons and recovery of bodies from deep water. Other applications are inspection of damage to hulls of boats, minor underwater repairs, pearl and sponge fishing, and sport, as in goggle fishing. Goggles are worn over the eyes to improve vision under water. With slight modification the apparatus can be adapted for use in atmospheres deficient in oxygen or containing noxious gases. Thus it would find wide application industrially for use in mines, sewers, chemical plants and gas companies. The modification consists simply of replacing the paired breathing bags, breathing tubes and T connection with a single 3 liter bag, attached directly to the soda lime container. The weight of such an industrial gas mask is slightly greater than 9 pounds (4 Kg.).

Department of Physiology, the School of Medicine, University of Pennsylvania.

1. Haldane, J. S.: Respiration, New Haven, Conn., Yale University Press, 1922, p. 335.
2. Behnke, A. R., and Yarbrough, O. D.: Physiological Studies of Helium, U. S. Nav. M. Bull. 36: 542-558 (Oct.) 1938.

LEAD IN A RENAL CALCULUS

MAX TRUMPER, PH.D., AND SAMUEL T. GORDY, M.D., PHILADELPHIA

O. H., a Negro aged 46, married, had been employed for five and one-half years in the corroding white lead department (Old Dutch process) of a plant manufacturing lead paints and oxides of lead for the making of storage batteries. There was a high exposure to lead dust, as evidenced by the fact that we have had a number of cases of lead poisoning from this plant which still used the Old Dutch process.

The patient had had no illness other than gonorrhea in 1912; he also had had antisyphilitic therapy consisting of thirty-two injections. He gave no history of tuberculosis, cancer or cardiorenal disease. He did have measles and chickenpox; he had had no operations or accidents.

His first complaint was in 1929 of discomfort high up under the sternum, which gradually migrated downward to the epigastrium and abdomen. For about three months after this onset he complained of sourness in the stomach from one-half to one hour after each meal. He consulted his family physician, who advised him to avoid fried foods and gave him some medication. There were no further symptoms until Sept. 13, 1939, when nausea began and he vomited twice that day. The patient came into the accident ward of St. Luke's and Children's Hospital in a fixed, crouched position, complaining of severe generalized abdominal pain. On September 15 this became more severe, appearing first throughout the lower part of the abdomen, then becoming generalized. The resident regarded the case as having a suggestive history of ulcer. The entire abdomen was rigid, more especially in the right upper quadrant of the abdomen. There was diffuse tenderness, and peristalsis was greatly diminished. The patient at all times preferred a fixed position. His temperature was 98 F., pulse 64, blood pressure 100 systolic and 60 diastolic. He had exquisite tenderness over the entire abdomen and palpation of the costovertebral area caused severe pain anteriorly in the abdomen. The pulse was slow and full. The patient was well developed; when being examined he was lying in bed in a drowsy state. There was no evidence of dyspnea, cyanosis or edema. His temperature was 99 F., respiratory rate 18, pulse rate 72 and blood pressure 122 systolic and 80 diastolic. His bowel hygiene was fair. The heart sounds were of good tone and regular, and there were no murmurs. The lungs were clear and resonant. On palpation of the costovertebral angle the patient complained of severe pain anteriorly around the umbilicus. On examination of the nervous system the pupils were constricted, and there was no reaction to light. The biceps reflexes were active and bilaterally

From St. Luke's and Children's Hospital.

equal; the patellar reflex was absent bilaterally. There was no gross pathologic condition of the eyes and ears. The throat, nose and larynx superficially were normal.

One week later in the hospital the patient still had a rigid abdomen with extreme tenderness over the gallbladder area and a questionable mass palpable in the right upper quadrant. This severe pain of the lower part of the abdomen continued except on September 16, when early that day the patient received 10 cc. intravenously of 10 per cent calcium gluconate. During the rest of that day there was no complaint of any abdominal pain until evening. The following day the pain became more intense. At this time the hemoglobin was 74 per cent, the red cells numbered 3,750,000 and he had refused permission for a spinal tap.

In view of the fixed pupils and the absence of the knee jerks, tabetic gastric crisis was suspected and it was deemed advisable not to operate. He was discharged September 30.

The patient was readmitted Sept. 2, 1940, to the accident ward of the hospital with a history of pain followed by vomiting. The pain was costovertebral, was on the right side and radiated down to the lower right quadrant. The intern gave him one-fourth grain (0.016 Gm.) of morphine sulfate with a tentative diagnosis of renal colic, possibly lead colic. His temperature was 98.4 F., pulse rate 56 and respiratory rate 28. His pulse was weak but regular in rate and rhythm. The white count was 15,000, 80 per cent hemoglobin, 85 per cent polymorphonuclear leukocytes, 14 per cent lymphocytes, 1 per cent monocytes. The red blood cells were negative for stippling. September 18 the blood urea was 37.5 mg., the creatinine 1.8 mg. and the blood sugar 95 mg. per hundred cubic centimeters. The urine showed a trace of albumin and from 30 to 40 white blood cells (high power field) as well as from 5 to 25 red blood cells. The Wassermann and Kahn reactions of the blood both gave negative results. The Boerner and Lukens flocculation tests also gave negative results. In the right lumbar region as well as in the epigastrium the pain was severe enough to cause an outcry by the patient. On September 2 at 6 a. m. he felt as though something fell from the kidney and then experienced a severe pain in the lumbar region posteriorly. Three months before the patient passed little clots of blood. On September 4 his temperature was 101 F., pulse rate 92 and respiratory rate 24. He was given 10 cc. of calcium gluconate intravenously as well as intravenous 5 per cent dextrose in saline solution totaling 1,000 cc. His pain receded during the period of this medication. The next day there was a return of pain in the abdomen; similar intravenous medication and therapy were given him during the next few days.

A roentgenologic report of September 4 by Dr. Joseph W. Post was as follows: "Examination made of the long bones of both extremities show no evidence of changes that warrant an interpretation of lead poisoning. This observation, however, does not exclude the possibility of lead poisoning from this aspect in a patient of this age. The right forearm, left leg and thigh show the presence of shadows indicative of possible lead bird shot. Both posterior tibial arteries show an abnormal degree of calcareous infiltration for a patient of this age." We later got a history of his having been shot at in 1917. Dr. I. J. Wessel, the roentgenologist, reported: "Examination made of the abdomen before and after the introduction of opaque ureteral catheters reveals the presence of two moderate sized shadows of calcareous density, one on either side of the spinal column. The shadow on the right side from its proximity to the tip of the catheter, has the roentgen appearance of urinary calculus. The one on the left side does not have the characteristic of a urinary calculus but would give one the impression of a large extraureteral shadow. From its appearance, a small calcified mesenteric gland cannot be excluded." The diagnosis was pathologic changes of the right kidney. The final diagnosis was bilateral genitourinary calculi.

At the operation, performed September 2, Dr. H. L. Weinstock found a small stone just below the right ureteropelvic junction. The stone was removed by forceps from the right ureter. Since the roentgenogram revealed a stone in the left lower pelvis, Dr. Weinstock prepared the patient for a second operation, but the patient refused operation despite a nonfunctioning left kidney.

The stone weighed 190 mg. and contained 3 per cent of lead. It was a typical phosphatic calculus. It is interesting to note that on Oct. 5, 1939, when the urine was analyzed for lead, 0.054 mg. per liter of urine was found, which was within the so-called normal range. There is one additional feature of this case and that is the unusual etiology. The question is whether the lead found in the kidney stone was occupational or nonoccupational in origin, or possibly both. As revealed by the roentgen studies, this patient still carries "bird" shot in his right forearm, the left leg and the thigh. His occupational exposure to lead dust was for five and one-half years while his "bird shot" exposure was for a period of twenty-three years. After the remaining calculus has been removed we may be able to answer this question from a study of the impurities present in the metal.

As far as we have been able to learn from a careful search of the American and foreign literature, there has been no previous report of a urinary calculus which contained lead.

921 Medical Arts Building—4312 Spruce Street.

The Chemical Laboratory and the Council on Pharmacy and Chemistry

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING STATEMENT. OFFICE OF THE COUNCIL.

The Council on Pharmacy and Chemistry and the Chemical Laboratory of the American Medical Association record with deep sorrow the death, Jan. 14, 1941, of

Paul Nicholas Leech

When Dr. Leech was stricken in his office and died shortly thereafter of a cerebral hemorrhage at the age of 51, the American Medical Association lost a faithful employee and medicine a guiding spirit. The Council on Pharmacy and Chemistry and the Chemical Laboratory lost the man who for many years had been largely responsible for the effectiveness of these departments. The many messages of condolence which have poured into the Council office testify to the esteem of those with whom he had come in contact during his twenty-seven years of service in the Chemical Laboratory, during the last nine years of which he had served also as secretary of the Council. He worked devotedly for the ideals of the Council and of the Association. Probably only members of the Council and of the headquarters staff of the American Medical Association can truly appreciate the loss to the Association occasioned by his untimely death.

Dr. Leech was born in Oxford, Ohio, on Aug. 12, 1889, the son of a chemist who was active in state food and drug control work. He received his bachelor's degree from Miami University in his home town in 1910 and the degree of Master of Science in Chemistry from the University of Chicago in 1911. His graduate studies in chemistry were conducted under the tutelage of the late Prof. Julius Stieglitz, a former member of the Council on Pharmacy and Chemistry. He received the degree of Doctor of Philosophy in 1913, after completing studies on formic acid and the chemistry of molecular rearrangements. The Philadelphia College of Pharmacy conferred on him the honorary degree of Master of Pharmacy in 1937. From 1911 to 1913 he served as a research assistant in the Department of Chemistry at the University of Chicago. On May 16, 1913 he joined the staff of the American Medical Association as a chemist in the laboratory, then under the direction of the late Prof. W. A. Puckner. He was made director of the Chemical Laboratory in 1924 and continued in this capacity until his death. In 1932 he was appointed Secretary of the Council on Pharmacy and Chemistry and later, when the Division of Drugs, Foods and Physical Therapy was created by the Board of Trustees to coordinate the central office activities of the Councils, he was placed in charge of this department.

While Dr. Leech served the Chemical Laboratory and the Council on Pharmacy and Chemistry continuously for many years, his activities extended to other fields. In common with many other officials of the American Medical Association, he served during the World War, being commissioned as First Lieutenant in the Sanitary Corps in 1918. Early in his career he became a member of the American Chemical Society and for many years was active in the work of this organization. He was chairman of the Chicago section in 1926, a councilor from 1921 to 1936; he served as chairman of the Section of Medicinal Chemistry in 1934 and was a member of the board of directors of the Chicago section from 1928 to 1934. He was well known in chemical circles for his part in formulating the type of programs used by the Chicago section of the American Chemical Society, generally known as the group meeting plan. These group meetings have been adopted elsewhere by chemists emigrating from the Chicago area who carry with them a knowledge of the enthusiasm with which Chicago section meetings are held.

Dr. Leech was a charter member of the Chemists Club of Chicago and served as trustee of this organization for several years. As he was an excellent organizer, meetings in which he had a part invariably seemed to run smoothly. Because of his ability to give attention to the minutiae on which purposeful organized meetings depend, he was called on frequently to help out in various activities of the American Medical Association. He was secretary of the Advertising Committee for the publications of the American Medical Association. From 1922 to 1930, in addition to other duties, he was director of the Scientific Exhibit and, under the direction of a committee of the Board of Trustees, he was instrumental in aiding the development of this activity to the important place it now occupies in the annual sessions of the Association. At all times Dr. Leech was ready to give of his time and energy to whatever duties were necessary to carry out the functions of the Association.

Paul Nicholas Leech (he spelled out his middle name because many years earlier his mother had expressed the wish that he use the name Nicholas) had an active career in the field of drug development and medicinal chemistry. Coming to the American Medical Association in an era when nostrums were still widely advertised to the medical profession, he joined with the efforts of the Council and of the Bureau of Investigation to expose many frauds or misrepresentations to the American public. He played an active part, along with others, in the chemical investigations incident to the celebrated Wine of Cardui trial. Many years later in the well known Elixir of Sulfanilimide-Massengill incident he was active in directing the exposure of this example of unscientific compounding of therapeutic preparations. Dr. Leech witnessed the development of many new therapeutic agents in connection with the considerations of these products by the Council and the Chemical Laboratory. During the first World War his knowledge of chemistry aided materially in the development of a rational basis for the naming of American-made drugs that no longer could be imported.

Dr. Leech was a member of Sigma Xi and an honorary member of Phi Beta Kappa. He was affiliated with a number of scientific societies in the field of his specialty. He is survived by his wife, Esther Birch Leech, a son and daughter, and two sisters.

The high place of Dr. Leech in the regard of men in scientific and medical circles resulted from his unusual scientific attainments and his absolute integrity, combined with a personality characterized by friendliness, directness and a fine sense of humor.

The source of his strength in the Council on Pharmacy and Chemistry lay in his own wide knowledge of chemistry combined with excellent judgment and ability to look on all sides of each question. Even when it was necessary for him to convey to manufacturers, or others, unfavorable opinions and conclusions of the Council they always felt that at least he was fair and absolutely honest. The importance of the work of Paul Nicholas Leech for the Council on Pharmacy and Chemistry, and for the medical profession of this country and the world, can hardly be realized. The results of his efforts will become more and more evident as the years pass.

The Chairman of the Council on Pharmacy and Chemistry, himself a founder member, has written of Dr. Leech's work in the following words:

"The task was great, and great the difficulty of keeping so many elements working smoothly and harmoniously together. His knowledge, insight and fairness found the way, his indefatigable industry and inexhaustible patience provided the means, his courtesy, good humor and kindness put it through. The work that he did lives after him. May his spirit abide with us!"

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

OFFICE OF THE COUNCIL.

LIVER EXTRACT (INJECTABLE) U. S. P.-ENDO, 10 UNITS PER CC.—A sterile aqueous solution of liver preserved with 0.5 per cent of phenol. The daily parenteral administration of 0.1 cc. has been found to produce the standard reticulocyte response defined as 1 U. S. P. unit (injectable) when assayed in cases of pernicious anemia as required by the Council.

Actions and Uses.—Liver extract-Endo is used for intramuscular injection in the treatment of pernicious anemia. See the general article Liver and Stomach Preparations, New and Nonofficial Remedies, 1940, p. 320.

Dosage.—Daily intramuscular injections of from 0.25 cc. to 0.5 cc. (2½ to 5 U. S. P. injectable units) may be given until the reticulocyte peak has been reached. The dosage is then kept at a level which will maintain remission.

Distributed by Endo Products, Inc., Richmond Hill, N. Y. No U. S. patent or trademark.

Liver Extract (Injectable) U. S. P.-Endo (10 U. S. P. units per cc.), 1 cc. Ampoule.

Liver Extract (Injectable) U. S. P.-Endo (10 U. S. P. units per cc.), 10 cc. Vial.

Liver extract (injectable) U. S. P.-Endo, 10 units per cubic centimeter, is prepared as follows: Fresh edible liver is extracted with water at 170 F. for thirty minutes and filtered. The filtrate is concentrated in vacuo and extracted with 70 per cent alcohol; the alcoholic extracts are concentrated in vacuo and precipitated with ammonium sulfate. The precipitate is further purified by alcoholic fractionation, the alcohol removed and the extract made up to volume so that each cubic centimeter contains the extract from 100 Gm. of fresh liver. Five tenths per cent phenol is used as a preservative.

NEO-SYNEPHRIN HYDROCHLORIDE (See New and Nonofficial Remedies, 1940, p. 250).

The following dosage form has been accepted:

Neo-Synephrin Hydrochloride ¼% in Ringer's Solution with Aromatics: Each fluidounce contains neo-synephrin hydrochloride 0.25 per cent, sodium bicarbonate 0.0025 per cent, sodium sulfite not more than 0.11 per cent, with camphor, menthol, eucalyptus and Ringer's solution.

PITRESSIN (See New and Nonofficial Remedies, 1940, p. 385).

The following additional dosage form has been accepted:

Ampoules of Pitressin, 0.5 cc.: Each ampule contains sufficient to allow withdrawal of 0.5 cc.

Manufactured by Parke, Davis & Co., Detroit.

RIBOFLAVIN (See New and Nonofficial Remedies, 1940, p. 526).

The following dosage form has been accepted:

Tablets Riboflavin, 1 mg.

Prepared by George A. Breon & Co., Inc., Kansas City, Mo. No U. S. patent or trademark.

SULFANILAMIDE (See New and Nonofficial Remedies, 1940, p. 492).

The following dosage form has been accepted:

Tablets Sulfanilamide, 5 grains.

Prepared by George A. Breon & Co., Kansas City, Mo. No U. S. patent or trademark.

SULFATHIAZOLE (See THE JOURNAL, Jan. 25, 1941, p. 308).

Sulfathiazole-Alba.—A brand of sulfathiazole-N. N. R.

Manufactured by Alba Pharmaceutical Company, New York. U. S. patent applied for. No U. S. trademark.

Tablets Sulfathiazole-Alba, 0.5 Gm. (7.7 grains).

Sulfathiazole-Calco.—A brand of sulfathiazole-N. N. R.

Manufactured by Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J. No U. S. patent or trademark.

Tablets Sulfathiazole-Calco, 0.5 Gm. (7.7 grains).

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SATURDAY, MARCH 29, 1941

AVAILABILITY OF TRAINED INDUSTRIAL PHYSICIANS

The demand for more and better trained medical personnel in war industries, under both governmental and private control, is steadily becoming more insistent. The scarcity of competent industrial nurses, engineers and physicians accords with an early impression of the Committee on Medical Preparedness of the American Medical Association; one of the first resolutions of the committee called for prompt organization and adequate support of training facilities for physicians interested in this field. As reported elsewhere in this issue, the committee is prepared to supply some data on the experience, training and facilities of physicians who devote a substantial part of their time to industrial affairs. Obviously, such lists of physicians constitute a record of men already placed. No matter what their qualifications, they are available for service elsewhere only at the expense of industrial service in which they are already engaged.

The present emergency will undoubtedly be sufficient inducement for many more physicians to undertake industrial medical service, especially those who have an interest in preventive medicine and a flair for administration. There are sound indications for believing that interest in industrial medicine and hygiene will not lapse as it did in the period following the last war. Opportunity for professional advancement, then, is most reassuring and need not be considered as limited to the period of the emergency. Certainly the obligation of medical educators to prepare the profession for greater and more competent participation in the maintenance of health in industry is much better recognized. At present organized instruction is available in a few medical and professional schools. Teaching facilities of the same type ought to be widespread and will be developed elsewhere without much difficulty as soon as financial support becomes available. The fundamentals of preventive industrial medicine and surgery can be supplied to a well qualified physician in three months' time, especially if a period of controlled experience in an acceptable industrial medical department can be added to this instruction. Since the medical requirements of industry are so varied, considerable adaptability in the content of the course and in field work is essential. Medical societies are also developing introductory and refresher courses as part of the program to integrate all industrial medical activity under the joint guidance of the committees on industrial health in the state medical societies and the bureaus of industrial hygiene in the state governments.

The Subcommittee on Industrial Health and Medicine of the Federal Security Agency, acting as coordinator in this field, has developed a Committee on Registration and Training of Medical Personnel for Service in Industry. During the early period of adjustment to emergency conditions, physicians who wish to apply for intensive training or for actual placement in industry are urged to register their names with the office of the Council on Industrial Health of the American Medical Association, 535 North Dearborn Street, Chicago. It is expected that the development of such a central advisory and placement service will do much to supply industry with dependable sources of assistance and service from the medical profession.

THE MEDICALLY HANDICAPPED CHILD

Children whose physical handicaps are not readily visible to the observer constitute a special problem in the conservation of child health. Boyd[1] refers particularly to children with chronic illnesses rather than to those with surgical disabilities commonly classified under the head of crippling. More attention is paid to the crippled child in the narrow sense of the term than to any others. The child with medical "crippling," such as heart disease, congenital syphilis or diabetes, is seldom included in the classification of crippled children either under such laws as the Social Security Act or in voluntary programs.

Boyd holds that "the outlook for the child with chronic illness is determined not only by the type and amount of medical supervision he receives during and after his episodes of acute illness but also by the adequacy of his environment to meet his needs." The needs of the child include those demanded by the illness and those required for the safety and health of the normal child. The need of the child with chronic illness for medical supervision extends beyond the acute stages of the disease. Coupled with this is the necessity for supervision during protracted convalescence, perhaps with convalescent nursing home care, hospital care or care in a supervised foster home which gives superior

1. Boyd, J. D.: Conservation of the Medically Handicapped Child, The Child 5:91 (Oct.) 1940.

physical, economic or emotional environment as compared with that which exists in the child's own home. Special stress is laid on the importance of emotional factors. Compromises are often necessitated because of economic, social or emotional pressures which deprive the child of optimum opportunities for recovery and rehabilitation or because parents may be satisfied with passive methods when active methods are urgently required.

Medical phases of treatment should not be the sole consideration. The child's disability is not due entirely to his illness or to crippling from his medical handicap but includes social, educational and emotional inadequacies or maladjustments which may outweigh the physical incapacity. Particularly important is the isolation of the child from the normal contacts of the well child. This isolation increases in direct proportion to the prolongation of his handicap and may render the child unable to reorient himself in the normal surroundings and activities of healthy children. It may even handicap him into his adult life. "The situation surely is ironic, when medical treatment permits the continuation of life, yet socioeconomic forces prevent normal participation in its activities."

A satisfactory program for the medical handicapped child is outlined by Boyd in the following five essentials:

(*a*) Routine physical examinations of well children to detect disease in its incipience.

(*b*) Appraisal of the child's environment, with special attention to the possibility of correcting undesirable conditions.

(*c*) Supervision of the child's welfare until maximum recovery is achieved.

(*d*) Optimum facilities for treatment through convalescence.

(*e*) Correlation of medical and nonmedical agencies "toward a plan for living which would be within the child's capacity."

Although the plan outlined is idealistic, "it does not call for a quality of medical attention different from that generally available; it calls primarily for a breadth of vision and an integration of the work of agencies concerned with the child." This integration calls for the services of the public school system, skilled social workers, public health nurses, visiting teachers and child psychologists, as well as of the physician. Only in favored areas can all these forces be brought to bear on the problem.

In a nation with an aging population and a falling birth rate it is not enough that child lives shall be saved. They must also be conserved. Much has been heard of late years about the inadequacy of medical care, but medical care may not be the main lack in many of these situations. Inadequate homes and inadequate appreciation of factors other than medical are vital to the health and welfare of children. The practicing physician has long recognized that his advice and his efforts are futile in many situations because means do not exist for carrying into effect his advice with relation to environment, nutrition and emotional adjustments. Such lack may frustrate the best of medical care.

MORBIDITY OF BRITISH WORKERS

An opportunity to compare the health of a sample of British workers as to physical condition and morbidity with the numerous reports of similar investigations in the United States is afforded by an article which appears in a recent issue of the *Lancet*.[1] The report covers an examination of 1,592 workers, including 1,352 men and 240 women. There was nothing amateurish or superficial about the examination. "Many were seen twice and a few three times; some 60 were sent for a second opinion to members of the consulting staff of the local municipal hospital. The pathological and x-ray facilities of the hospital were freely used; though it was not possible to do routine radiography of the chest or examine the cerebrospinal fluid." The distribution by age groups seems to have been fairly representative of a general working population, there being 290 between 17 and 29, 468 from 30 to 39, 319 from 40 to 49 and 275 from 50 to 64. Only workers actually employed were examined. Twenty employees were excluded because of absence on account of sickness. The report is detailed as to the defects discovered. In the table, only the main classifications in the original list are given.

Defects Found in 1,352 Men

Cardiovascular	298	Genitourinary	42
Alimentary (including dental)	1,485	Chronic rheumatic	21
Respiratory	50	Occupational	8
Nervous	18	Miscellaneous	836

Concerning the results the examiner says:

All the men and women examined were under national health insurance. The general standard of health cannot, therefore, be considered satisfactory. Of the 1,592 examined, 112 (7 per cent) would probably have been rejected for life insurance and might therefore be described as suffering from major disorders; many more would have been weighted. Minor disorders were legion and included bad teeth, dyspepsia, hernia, chronic bronchitis, defects of hearing and vision, anemia, varicose veins and deformed feet.

Of the 112 men and women in whom major disorders were found, 12 were, or had recently been, under medical care at the time of the examination. Similar records showed that in the case of varicose veins, a minor disorder of the 252 men who had the condition, only 7 had ever consulted their doctors about it. For the most part both major and minor disorders were neglected or unsuspected. Inquiry did not confirm the disinclination to seek advice noted at the Peckham Health Centre, although the workers as a rule sought medical attention only for the alleviation of symptoms which were both unpleasant and disabling. Actually, 50 per cent had seen their doctors during the preceding two years, and 22 per cent between two and five years ago. Most of the major disorders found were symptomless or symptoms which did not interfere with the daily work. The minor disorders were usually quite obvious; they were seen but not perceived. Bad teeth, as far as most of the subjects were aware, were quite natural and normal. Most of the major disorders would have benefited from medical care, if only as management. The minor disorders were largely

1. Morris, J. N.: A Medical Examination of 1,592 Workers, Lancet 1:51 (Jan. 11) 1941.

avoidable and unnecessary; they could have been prevented, controlled or cured.

These findings demonstrate the value of routine medical inspection or health examination of adults, such as those already taken for granted in the school population. Once organized, regular health examinations would mark a major advance in public health.

Since this examination is based on a fair sample of the English working population, it seems to offer a challenge to those who claim that compulsory health insurance encourages preventive care, discovers disease in its early stages, assures adequate care of the insured at all times and maintains a higher physical standard for the insured than is found among the noninsured population of a like kind in the United States.

Current Comment

DANGEROUS TRADES

Every catastrophe in industry lends added force to the contention that the welfare of the employed population would be vastly improved if means and personnel were available to apply existing knowledge about prevention of accidents and disease. Mining is classed as a dangerous trade, yet much is known about the causes and prevention of dangerous exposures and much can be done to reduce the hazardous nature of this occupation. The United States Bureau of Mines investigated a recent disastrous explosion near Beckley, W. Va., and showed again that every coal mine is potentially a hazard for gas. Although the mine in question had been in operation for forty years without a report of the existence of gas, dangerous concentrations were discovered in the subsequent inquiry. The official report states that smoking was not prohibited and that probably all employees carried matches, contrary to all existing safety recommendations. It appears that regular and intelligent inspection would also have brought to light certain unsatisfactory ventilating practices, and that rock dusting would have eliminated coal dust as a potential cause or contributor to the explosion and consequent loss of life.

WORKERS IN INDUSTRIAL MEDICINE

Under a special order to factories issued by the medical welfare services in Great Britain in 1940, employers may be asked by the factory inspectorate to appoint medical officers on either a whole time or a part time basis. The Council of the British Medical Association has developed a salary scale for such appointments, in which connection it points out that the appointments are to be regarded as war time appointments made under abnormal conditions and that new conditions will probably prevail after the war. A full time medical officer in charge of medical work in a factory is to have a salary of £800 a year, and an assistant medical officer from £600 to £650 a year. It is said that at present no practitioner liable to service in the army will be appointed to industry as a whole time medical officer. Furthermore, it is emphasized that it is preferable that medical officers in industry should be over 35 years of age. Physicians employed on a part time basis are to be paid on a salary equivalent to 1½ guineas for a session of not more than two hours. The Council of the British Medical Association has recommended that medical officers appointed to industry should preferably have had good experience in general practice. They should have first hand experience not only of medical but also of social conditions prevailing in the industrial community. They should be able to understand the point of view of, and to cooperate with, both the management and the workers.* The Factory Department of the Ministry of Labor and National Service in Great Britain has issued a special memorandum on medical supervision in factories which outlines the duties of medical officers. This memorandum from the British Medical Association indicates the extreme importance now attached in Great Britain to the health of the worker in industry.

SPECIALTY PRACTICE AND INDUSTRIAL HEALTH

One of the important consulting groups in industry is the dermatologists, since the majority of all claims for compensation covering occupational disease fall in the classification of harmful exposure of the skin. For some years the Section on Dermatology and Syphilology of the American Medical Association has maintained a Committee on Industrial Dermatoses which has studied these problems jointly with a similar agency in the American Dermatological Association. Recently close working relationships have been established between this joint committee and the Council on Industrial Health. An early and important result of this collaboration has been the development of an acceptable medical definition of an occupational dermatosis and its submission to the Council for publication and general adoption:

> An occupational dermatosis is a pathologic condition of the skin for which occupational exposure can be shown to be a major causal or a major contributory factor.

Through organized activity of this kind, acceptance of reliable standards governing the recognition, control and treatment of occupational cutaneous disorders by dermatologist, industrial practitioner and the general profession will be greatly hastened and strengthened. Other specialty groups have equally important reasons for clarifying their relationships to industry. The Council on Industrial Health has recommended to the sections in the Scientific Assembly that cooperating committees be created for the regular consideration of industrial problems. Given an energetic and representative membership and a clear conception of needs, there appears to be almost no limit to the salutary influence which these agencies can exert on medical accomplishment in industry and the clarification of medical aspects of workmen's compensation procedure.

MEDICAL PREPAREDNESS

In this section of The Journal each week will appear official notices by the Committee on Medical Preparedness of the American Medical Association, announcements by the Surgeon Generals of the Army, Navy and Public Health Service, and other governmental agencies dealing with medical preparedness, and such other information and announcements as will be useful to the medical profession.

ARMY RESERVE OFFICERS ORDERED TO ACTIVE DUTY

WAR DEPARTMENT

The following additional medical reserve corps officers have been ordered to extended active duty by the War Department:

BECKER, Maurice Loren, Captain, Chicago.
BERGER, Arthur Julian, Captain, New York.
BRANDON, Thomas Campbell, 1st Lieut., Williamsport, Pa.
BRYLAWSKI, Michael, 1st Lieut., Philadelphia.
CHING, Samuel, Captain, Victorville, Calif.
CLISBY, Keith Merle, Captain, Portland, Ore.
CROMWELL, James Oliver, 1st Lieut., Blackfoot, Idaho.
DAMMIN, Gustave John, 1st Lieut., New York.
DAVIS, Charles Quincy, Major, Houston, Texas.
DOMINICK, John Frank, 1st Lieut., Washington, D. C.
ERSAY, Emil Francis, Captain, Cleveland.
EVERETT, Peter, Captain, New Orleans.
FAIER, Herman Irwin, 1st Lieut., Los Angeles.
FEY, David William, Captain, Peoria, Ill.
FIRESTONE, Charles, Captain, Seattle.
FREDIANI, Alexander William, 1st Lieut., Wayne, Pa.
FULLER, Lawrence Stokes, Major, Columbia, S. C.
GARRETT, Robert Thompson, 1st Lieut., Southampton, L. I., N. Y.
GRAY, Luther Wilson, Captain, Washington, D. C.
GROSHART, Oscar Doyle, Captain, Slaton, Texas.
HAGEN, Walter Henry, 1st Lieut., East Orange, N. J.
HARDIN, Parker Calhoun, Captain, Monroe, N. C.
HAYWARD, Joseph Clauson, 1st Lieut., Chattanooga, Tenn.
HOWARD, Robert Bruce, 1st Lieut., Oklahoma City.
JOHNSTON, Robert Hartman, Captain, Clarksville, Ark.
KATZ, Seymour Milton, 1st Lieut., Brooklyn.
KAUFMAN, Russell Henry, Captain, Portland, Ore.
KAVANAGH, William Paul, 1st Lieut., Cooleemee, N. C.
KOSSMANN, Charles Edward, 1st Lieut., New York.
LaROE, Arthur, Captain, New York.
LEAVY, Philip Gerard, 1st Lieut., Pittsburgh.
LUTHER, Ross Daniel, 1st Lieut., Denver.
MANTZ, Harry Earl, 1st Lieut., St. Louis.
MAYORAL, Antonio, Major, New Orleans.
McHARDY, George Gordon, 1st Lieut., New Orleans.
MENDEL, Charles Louis, 1st Lieut., Washington, D. C.
MENDELIS, Christopher Joseph, 1st Lieut., Baltimore.
MILLER, Alexander, Captain, Cleveland.
MILLER, Hubert Wainwright, 1st Lieut., Artesia, N. M.
MITCHELL, Charles Henry, 1st Lieut., Decatur, Ga.
MURPHY, Owen Bernard, Jr., 1st Lieut., Peoria, Ill.
NUNN, Leslie Laughlin, Captain, Vancouver, Wash.
OETTING, William Henry, Jr., 1st Lieut., Wilkinsburg, Pa.
OGAARD, Adolph Thompson, 1st Lieut., New Orleans.
PARNALL, Christopher G., Jr., 1st Lieut., Rochester, N. Y.
RAMER, Samuel Milton, 1st Lieut., Las Cruces, N. M.
RICE, Albert John, 1st Lieut., Georgetown, Texas.
SANES, Gilmore Maurice, 1st Lieut., Pittsburgh.
SIMS, Wayne W. C., Captain, Seattle.
SURACI, Alfred John, 1st Lieut., Washington, D. C.
THOMAS, Herbert Hall, 1st Lieut., Myrtle Point, Ore.
THORSNESS, Edwin Trueman, Major, Denver.
TINSLEY, Milton, 1st Lieut., Chicago.
TREMAINE, Jay Eugene, 1st Lieut., Ajo, Ariz.
TRUEMAN, Robert Heiserman, 1st Lieut., Philadelphia.
WARD, Henry Hansford, 1st Lieut., Miami, Fla.
WATERS, Floyd Leo, 1st Lieut., Hugo, Okla.
WILSON, Gale Edward, Captain, Seattle.
WOLDENBERG, Saul Charles, Lieut. Col., Castle Point, N. Y.

SECOND CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Second Corps Area, which comprises the states of New York, New Jersey and Delaware:

ALTMAN, Jacob, 1st Lieut., New York, Camp Livingston, La.
AMYOT, Rudolph F., 1st Lieut., Cohoes, N. Y., West Point, N. Y.
ANGELO, Joseph A., 1st Lieut., Secaucus, N. J., Fort Knox, Ky.
BARNEY, Clyde O., Lieut. Col., Syracuse, N. Y., Pine Camp, N. Y.
BERCHENKO, Frank, 1st Lieut., Brooklyn, Fort Moultrie, S. C.
BRYANT, Tracy L., Captain, Syracuse, N. Y., Pine Camp, N. Y.
BURTON, Benjamin F., Jr., 1st Lieut., Dover, Del., Camp Stewart, Ga.
COHEN, Irving, 1st Lieut., Flushing, L. I., N. Y., Fitzsimons General Hospital, Denver.
COHEN, Max M., 1st Lieut., Brooklyn, Fort Benning, Ga.
COLLINS, Ralph T., Captain, Albany, N. Y., Induction Station, Syracuse, N. Y.
DEMBINSKI, Thomas H., 1st Lieut., Trenton, N. J., Camp Davis, N. C.
DI BRIZZI, Thomas G., Captain, Brooklyn, Fort Hamilton, N. Y.
DURHAM, James R., Jr., 1st Lieut., Wilmington, Del., Camp Croft, S. C.
FAIRCHILD, Robert D., 1st Lieut., Syracuse, N. Y., Pine Camp, N. Y.
FOGEL, David H., 1st Lieut., Brooklyn, Camp Blanding, Fla.
GADEK, Stanley A., 1st Lieut., Perth Amboy, N. J., Camp Forrest, Tenn.
GAMBERT, Lawrence, 1st Lieut., Brooklyn, Fort Dix, N. J.
GANZ, Samuel E., 1st Lieut., New York, Fort Wadsworth, N. Y.
GROSS, Reuben, 1st Lieut., Brooklyn, Camp Stewart, Ga.
GOLDBERG, George J., 1st Lieut., Woodhaven, N. Y., Fort Dix, N. J.
GOLDFEDER, Abraham C., 1st Lieut., Brooklyn, Camp Forrest, Tenn.
HALL, John B., 1st Lieut., Jamestown, N. Y., Camp Forrest, Tenn.
HATZ, Bernhard, 1st Lieut., Cedarhurst, L. I., N. Y., Induction Station, Buffalo.
HERSHMAN, Arthur, 1st Lieut., Brooklyn, Camp Blanding, Fla.
HOFFMAN, Parker M., 1st Lieut., Painted Post, N. Y., Fort Ontario, N. Y.
HUDSON, Howard S., 1st Lieut., Mays Landing, N. J., Camp Croft, S. C.
KINSEY, Roy E., 1st Lieut., Peekskill, N. Y., Camp Blanding, Fla.
KLUFT, Jack M., 1st Lieut., Perth Amboy, N. J., Camp Forrest, Tenn.
KRISTAL, Jackson J., 1st Lieut., New York, Fort Wadsworth, N. Y.
KOENIG, George A., Lieut. Col., New York, Fort Jay, N. Y.
LEAMAN, Granville M., 1st Lieut., East Orange, N. J., Camp Croft, S. C.
LOVE, John W. P., Captain, New Castle, Del., Army Medical Center, Washington, D. C.
MANCUSO, Natale P., 1st Lieut., Buffalo, Fort Bragg, N. C.
MANUELE, Charles A., 1st Lieut., Rochester, N. Y., Fort Ontario, N. Y.
MAYER, Hyman R., 1st Lieut., Woodside, N. Y., Fort Bragg, N. C.
MORRIS, Carlyle, Captain, Metuchen, N. J., Fort Jackson, S. C.
NEBLETT, Douglas C., 1st Lieut., Great Kills, S. I., N. Y., Fort Monmouth, N. J.
NEMIROFF, Nathan, 1st Lieut., New York, Fort Bragg, N. C.
NOVELLO, Joseph A., 1st Lieut., Elizabeth, N. J., Camp Davis, N. C.
PARVEY, Marcus A., 1st Lieut., Brooklyn, Camp Stewart, Ga.
PETRONE, John C., Jr., 1st Lieut., Suffern, N. Y., Southern New York Recruiting District, New York.
PITMAN, David B., 1st Lieut., Port Washington, N. Y., Fort Barrancas, Fla.
PRICE, Louis A., 1st Lieut., Jackson Heights, N. Y., Camp Livingston, La.
ROBINSON, Walter G., 1st Lieut., New York, Madison Barracks, N. Y.
SABATINI, Silvio A., 1st Lieut., New York, Camp Claiborne, La.
SANDS, Abraham M., Captain, Brooklyn, Fort Benning, Ga.
SCHNAP, Emil H., 1st Lieut., Albany, N. Y., West Point, N. Y.
SERIO, Joseph C., 1st Lieut., Buffalo, Camp Forrest, Tenn.
SPIVACK, Isaac D., Captain, Brooklyn, Camp Blanding, Fla.
STRINGER, Sydney W., Captain, Syracuse, N. Y., Pine Camp, N. Y.
STUBENRAUCH, Walter H., 1st Lieut., Union City, N. J., Camp Davis, N. C.
TELLMAN, Edwin T., 1st Lieut., Palmyra, N. Y., Camp Claiborne, La.
WACHTELL, Sidney, 1st Lieut., New York, Fort Benning, Ga.
WATERS, Carlton H., 1st Lieut., Medina, N. Y., Fort Niagara, N. Y.
WEINER, Aaron, 1st Lieut., Brooklyn, Fort Hancock, N. J.
WEISS, Paul, 1st Lieut., Woodside, L. I., N. Y., Camp Blanding, Fla.
WHARTON, Raeburn J., Lieut. Col., Johnson City, N. Y., Pine Camp, N. Y.
WILSON, Charles H., Major, New York, Camp Blanding, Fla.
ZUCKERMAN, Isador C., Major, Brooklyn, Camp Peay, Tenn.

THIRD CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Third Corps Area, which comprises the states of Pennsylvania, Virginia, District of Columbia and Maryland:

AXELMAN, Edward Lewis, 1st Lieut., Darby, Pa., Military Reservation, Indiantown Gap, Pa.
BAIR, Victor Wherry, 1st Lieut., Belle Vernon, Pa., Camp Lee, Va.
BLOOM, Samuel Michael, 1st Lieut., Clifton Forge, Va., Camp Lee, Va.
BOYLAN, Joseph Thomas, 1st Lieut., Scranton, Pa., Military Reservation, Indiantown Gap, Pa.
CANDLER, Paul Kiser, 1st Lieut., Reedville, Va., Fort George G. Meade, Md.
CAPLAN, Aaron, 1st Lieut., Ellwood City, Pa., Fort George G. Meade, Md.
CHASE, Morris, Captain, Washington, D. C., Camp Lee, Va.
CHERVINKO, Joseph, 1st Lieut., Farrell, Pa., Military Reservation, Indiantown Gap, Pa.
CRAVOTTA, Charles Angelo, Captain, Pittsburgh, Fort Monroe, Va.
DEIBERT, Glenn Aeneas, 1st Lieut., Reading, Pa., Military Reservation, Indiantown Gap, Pa.
DESNICK, William Jay, 1st Lieut., Deal Island, Md., Fort George G. Meade, Md.
DIETRICH, Sterrett Ernest, Captain, Ingram, Pa., Fort Eustis, Va.
DRAYER, Calvin Searle, Captain, Upper Darby, Pa., Camp Lee, Va.
DUFAULT, Leo William, 1st Lieut., Washington, D. C., Fort George G. Meade, Md.
DUNN, John Newton, Captain, Blackstone, Va., Camp Lee, Va.
ERICKSEN, Arthur Nils, 1st Lieut., Reading, Pa., Fort George G. Meade, Md.
ETTER, Lewis Elmer, Captain Warrendale, Pa., Fort George G. Meade, Md.
FINKELMAN, Samuel, 1st Lieut., Upper Darby, Pa., Fort George G. Meade, Md.
FISHKIN, Hymel, 1st Lieut., Natrona Heights, Pa., Fort George G. Meade, Md.
FISSEL, John Edward, Jr., 1st Lieut. Newport News, Va., Fort George G. Meade, Md.
FISTER, Thomas Reuben, 1st Lieut., Fredericksburg, Pa., Military Reservation, Indiantown Gap, Pa.
FOGEL, Julius, 1st Lieut., Lynchburg, Va., Fort Benning, Ga.
FRENKIL, James, 1st Lieut., Baltimore, Fort George G. Meade, Md.
GALLAHER, George Regis, Captain, Pittsburgh, Military Reservation, Indiantown Gap, Pa.
GILMARTIN, Joseph Aloysius, Captain, Pittsburgh, Fort George G. Meade, Md.
GINSBERG, Joseph Edwin, 1st Lieut., New Castle, Pa., Savannah Air Base, Savannah, Ga.
GOLDMAN, Gilbert Sanes, 1st Lieut., Pittsburgh, Fort George G. Meade, Md.
GOLDSTONE, Herbert, 1st Lieut., Baltimore, Fort George G. Meade, Md.
GROBMAN, Irving Leonard, 1st Lieut., Philadelphia, Fort George G. Meade, Md.
HARMEIER, John Watson, Captain, Pittsburgh, Fort Eustis, Va.
HOCKENBERRY, Everette Dale, Major, Etna, Pa., District Recruiting Office, Pittsburgh.
HOLLER, George Frank, Major, Waynesboro, Va., Camp Stewart, Ga.
HONIGMAN, Milton Albert, Captain, Baltimore, Camp Lee, Va.
JACQUES, George Alfred, Captain, Brackenridge, Pa., Military Reservation, Indiantown Gap, Pa.
JAMACK, John August, 1st Lieut., Yatesboro, Pa., Military Reservation, Indiantown Gap, Pa.
JOSE, John Frederick, Captain, Curtisville, Pa., Military Reservation, Indiantown Gap, Pa.
KAPLAN, Isadore, 1st Lieut., Baltimore, Fort George G. Meade, Md.
KAUFMAN, Benjamin Victor, 1st Lieut., Scranton, Pa., Fort George G. Meade, Md.
KISER, Jefferson Bishop, 1st Lieut., Emporia, Va., Fort Eustis, Va.
KUCLACKI, Leo Luke, 1st Lieut., Baltimore, Fort George G. Meade, Md.
LAKATOS, Nicholas Raymond, 1st Lieut., Nanticoke, Pa., Fort George G. Meade, Md.
LAMBERT, Richard Hooker, 1st Lieut., Baltimore, Camp Lee, Va.
LANDY, Julius C., 1st Lieut., Pittsburgh, Fort George G. Meade, Md.
MANGO, Albert Edward, Captain, Erie, Pa., Military Reservation, Indiantown Gap, Pa.
McFADDEN, Roscoe Isaac, 1st Lieut., Newport News, Va., Fort George G. Meade, Md.
McFARLAND, Kenneth Thomas Hanna, Jr., 1st Lieut., Coraopolis, Pa., Camp Lee, Va.
McSTEEN, Arthur Joseph, Captain, West Newton, Pa., Military Reservation, Indiantown Gap, Pa.
MECKSTROTH, Herman Franklin, 1st Lieut., Red Hill, Pa., Military Reservation, Indiantown Gap, Pa.
MENDOZA, Joseph William, Captain, Pittsburgh, Military Reservation, Indiantown Gap, Pa.
MILLER, Elmer Harry, 1st Lieut., Scranton, Pa., Fort Belvoir, Va.
MILLER, John Veil, Captain, Dillsburg, Pa., Fort Belvoir, Va.
MORRIS, Edward Starr, 1st Lieut., Wyncote, Pa., Fort Story, Va.
MORROCCO, John D., 1st Lieut., Pittsburgh, Military Reservation, Indiantown Gap, Pa.
ODEN, Philip Wood, Captain, Richmond, Va., Camp Lee, Va.
PEARCE, Leroy Sannoner, 1st Lieut., Falkner, Miss., Camp Lee, Va.
PETRAGLIA, Angelo Anthony, 1st Lieut., Pittsburgh, Military Reservation, Indiantown Gap, Pa.
PUGH, George Elbert, 1st Lieut., Scranton, Pa., Military Reservation, Indiantown Gap, Pa.
RACHUNIS, Michael Lewis, 1st Lieut., Glen Lyon, Pa., Military Reservation, Indiantown Gap, Pa.
REDDING, Willis Arthur, 1st Lieut., Towanda, Pa., Military Reservation, Indiantown Gap, Pa.
RILEY, Francis William, 1st Lieut., Scranton, Pa., Military Reservation, Indiantown Gap, Pa.
ROBERTS, David P., 1st Lieut., Baltimore, Fort George G. Meade, Md.
ROLLINS, Clark Thomas, 1st Lieut., Brackenridge, Pa., Military Reservation, Indiantown Gap, Pa.
ROMAGOSA, Samuel Sample, Captain, Philadelphia, Fort George G. Meade, Md.
ROMANOW, Peter W., 1st Lieut., Philadelphia, Military Reservation, Indiantown Gap, Pa.
ROSENBAUM, George Robert, 1st Lieut., Jewell Ridge, Va., Fort George G. Meade, Md.
RUDMAN, Gilbert Elmore, 1st Lieut., Baltimore, Fort George G. Meade, Md.
RUSSO, Albert John, 1st Lieut., Check, Va., Fort Belvoir, Va.
SCHULTZ, Edward Murry, Captain, McKees Rocks, Pa., Military Reservation, Indiantown Gap, Pa.
SCHULTZ, Frank Bernard, Captain, Falls Church, Va., Military Reservation, Indiantown Gap, Pa.
SCHWALM, Ralph Ivan, 1st Lieut., Valley View, Langley Field, Va.
SELBY, George Durward, 1st Lieut., Germantown, Md., Fort George G. Meade, Md.
SHAFFER, Donald Young, Captain, New Brighton, Pa., Fort George G. Meade, Md.
SHAW, Harry Edward, Captain, Donegal, Pa., Military Reservation, Indiantown Gap, Pa.
SIMS, Arthur Isaac, 1st Lieut., Philadelphia, Military Reservation, Indiantown Gap, Pa.
SMITH, Lewis Aaron, Captain, Pen Argyl, Pa., Fort George G. Meade, Md.
SNIDER, John Dennis, 1st Lieut., Ashburn, Va., Fort George G. Meade, Md.
SNYDER, Luther Henry, 1st Lieut., Washington, D. C., Washington Military District, Washington, D. C.
STEINBERG, Harry, 1st Lieut., Bastian, Va., Fort George G. Meade, Md.
STEINER, Sylvan Adolph, 1st Lieut., Washington, D. C., Fort George G. Meade, Md.
STEPT, Raymond, 1st Lieut., Pittsburgh, Camp Lee, Va.
STERLING, Julian Alexander, 1st Lieut., Philadelphia, Fort George G. Meade, Md.
SUNDAY, Stuart Dos Passos, 1st Lieut., Baltimore, Fort George G. Meade, Md.
SUTER, James Marion, Captain, Bristol, Va., Camp Lee, Va.
TOSICK, William Andrew, 1st Lieut., Cambridge, Md., Fort George G. Meade, Md.
VORBRINCK, Thomas Mathews, Captain, Norfolk, Va., Fort Monroe, Va.
WASSELL, George Clayton, 1st Lieut., Sharon, Pa., Military Reservation, Indiantown Gap, Pa.
WEYAND, James Gilbert Mason, Captain, Beaver, Pa., Washington, D. C.
WILCOX, Wilfred Whitman, Captain, Montoursville, Pa., Military Reservation, Indiantown Gap, Pa.
WILNER, Paul Robert, 1st Lieut., Washington, D. C., General Dispensary, U. S. Army, Baltimore.
WINN, Washington Carlyle, 1st Lieut., Richmond, Va., Fort Monroe, Va.
WIRTS, Carl Alexander, 1st Lieut., Pittsburgh, Fort Monroe, Va.
ZOLA, Samuel, 1st Lieut., Washington, D. C., Fort George G. Meade, Md.

FOURTH CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Fourth Corps Area, which comprises the states of Tennessee, North Carolina, South Carolina, Alabama, Georgia, Mississippi, Florida and Louisiana:

BABERS, Henry J., Jr., 1st Lieut., Gainesville, Fla., Fort McPherson, Ga.
BERTINOT, Gerald Jr., 1st Lieut., Sunset, La., Fort Benning, Ga.
BROWN, Harold O., Major, Tampa, Fla., Fort Bragg, N. C.
COHEN, Jonathan, 1st Lieut., Savannah, Ga., Fort Benning, Ga.
COOPER, Albert L., 1st Lieut., Chapel Hill, Tenn., Fort Bragg, N. C.
CRICHLOW, Richard S., Lieut. Col., New Orleans, Fort Bragg, N. C.
DAVIS, Charles W., Jr., 1st Lieut., Humboldt, Tenn., Fort Jackson, S. C.
DAVIS, John P., Captain, Winston-Salem, N. C., Camp Livingston, La.
DROHOMER, Peter, Captain, Daytona Beach, Fla., Fort Benning, Ga.
FERBER, Leon, 1st Lieut., Nashville, Tenn., Camp Blanding, Fla.
GRIFFIN, Eugene L., 1st Lieut., Augusta, Ga., Fort Oglethorpe, Ga.
KNOEPP, Louis F., Captain, Shreveport, La., Fort Benning, Ga.
LEVY, Louis, Major, Memphis, Tenn., Camp Shelby, Miss.
MAYS, John R. S., Captain, Macon, Ga., Camp Blanding, Fla.
McEVITT, William G., 1st Lieut., Madisonville, Tenn., Camp Shelby, Miss.
MERRITT, J. Webster, 1st Lieut., Jacksonville, Fla., Camp Blanding, Fla.
MOORHEAD, William H., 1st Lieut., Goldville, S. C., Camp Blanding, Fla.
NAUGLE, Thomas C., 1st Lieut., Gadsden, Ala., Fort Bragg, N. C.
NELSON, Thomas F., Captain, Tampa, Fla., Fort Benning, Ga.
NEWBERN, Walter R., 1st Lieut., Statesville, N. C., Fort Benning, Ga.
NUNN, Joshua H., 1st Lieut., Ripley, Tenn., Fort McPherson, Ga.
OETJEN, George F., Major, Jacksonville, Fla., Fort Benning, Ga.
PARSONS, Hugh E., 1st Lieut., Tampa, Fla., Camp Shelby, Miss.
RAMSAY, Thomas R., 1st Lieut., Laurel, Miss., Fort Bragg, N. C.
RAMSEY, George A., Captain, Farmerville, La., Fort McClellan, Ala.
ROPER, C. James, 1st Lieut., Jasper, Ga., Fort Benning, Ga.

SANDUSKY, William R., Captain, Pensacola, Fla., Camp Blanding, Fla.
SHEPARD, Richard C., Captain, LaFayette, Ga., Fort Bragg, N. C.
SUMMER, William C., Major, Minden, La., Camp Livingston, La.
TEEM, Martin V. B., 1st Lieut., Marietta, Ga., Fort Bragg, N. C.
WEIL, Nathan, Jr., 1st Lieut., Jacksonville, Fla., Fort McPherson, Ga.
WHITEHEAD, Clarence M., 1st Lieut., Greenville, Ga., Fort Bragg, N. C.
WILLIEN, Leon J., Captain, Knoxville, Tenn., Fort Jackson, S. C.
WISE, Robert A., 1st Lieut., Chattanooga, Tenn., Fort McPherson, Ga.
ZUCKERMAN, William, Major, Kentwood, La., Camp Livingston, La.

Orders Revoked

ALBRIGHT, Samuel L., 1st Lieut., Belmont, N. C.
BERGMAN, Sam, 1st Lieut., New Orleans.
BICHARD, Philip M., 1st Lieut., Orlando, Fla.
BUSSABARGER, Robert A., 1st Lieut., Memphis, Tenn.
COE, Isaac S., 1st Lieut., Memphis, Tenn.
HOLLOWELL, Claude V., 1st Lieut., Corapeake, N. C.
JOHNSON, Johny R., Major, Jackson, Miss.
MARTIN, Farris J., 1st Lieut., Montgomery, Ala.
PATTON, Marion L., Captain, Memphis, Tenn.

SEVENTH CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Seventh Corps Area, which comprises the states of North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Kansas, Missouri, Arkansas and Wyoming:

AAGESEN, Carl Arthur, 1st Lieut., Dows, Iowa, Fort Knox, Ky.
ALDEN, Oscar, 1st Lieut., Red Oak, Iowa, Fort Knox, Ky.
BECKER, George Henry, Captain, St. Louis, Fort Knox, Ky.
BLAIR, Ralph Ledwich, 1st Lieut., Broken Bow, Neb., Fort Leonard Wood, Mo.
BOE, Henry, Captain, Sioux City, Iowa, Fort Knox, Ky.
BOLEY, James Oren, 1st Lieut., Pilot Grove, Mo., Fort Knox, Ky.
BOTTORFF, Melvin Kinch, Captain, Lake Village, Ark., Fort Knox, Ky.
BRAY, Kenneth Eben, 1st Lieut., Park Rapids, Minn., Fort Knox, Ky.
BREWSTER, Edward Sumner, 1st Lieut., Boone, Iowa, Fort Knox, Ky.
BROWN, John Jefferson, 1st Lieut., Fulton, Mo., Fort Knox, Ky.
CARLSON, Elmer Henry, 1st Lieut., Muscatine, Iowa, Fort Knox, Ky.
CLEARY, Frank, 1st Lieut., St. Louis, Hamilton Field, Calif.
COWAN, Watt Overton, 1st Lieut., Greenfield, Iowa, Fort Knox, Ky.
DAVIDSON, Henry Everett, Captain, Lead, S. D., Fort Knox, Ky.
DICK, Harry Jacob, 1st Lieut., St. Louis, Hamilton Field, Calif.
DOUGLAS, Thomas Harrelson, Jr., 1st Lieut., Osceola, Mo., Fort Knox, Ky.
FAST, William Spencer, 1st Lieut., Atchinson, Kan., Fort Knox, Ky.
FLYNN, George Thomas, 1st Lieut., St. Louis, Fort Leonard Wood, Mo.
HAIRSTON, Glenn George, 1st Lieut., Prescott, Ark., Fort Knox, Ky.
HAYES, Paul Wesley, 1st Lieut., Hot Springs, S. D., Fort Francis E. Warren, Wyo.
HELBING, Edward John, 1st Lieut., Richmond Heights, Mo., Fort Knox, Ky.
HILL, Edwin Ruthven, Jr., 1st Lieut., Pleasanton, Kan., Fort Knox, Ky.
HILL, Willard Hughes, 1st Lieut., Bismarck, N. D., Fort Lewis, Wash.
HUGHES, Shelby Bond, 1st Lieut., Clinton, Mo., Fort Knox, Ky.
KARN, Jacob Francis, 1st Lieut., St. Paul, Fort Knox, Ky.
KENNEDY, James Forde, 1st Lieut., Alliance, Neb., Fort Leonard Wood, Mo.
LANNON, James Woodward, 1st Lieut., Clear Lake, Iowa, Camp J. T. Robinson, Ark.
LARSON, Ernest John, 1st Lieut., Jamestown, N. D., Fort Riley, Kan.
LEE, Robert Louis, Captain, Kansas City, Kan., Fort Knox, Ky.
MAHOWALD, Ralph Edward, 1st Lieut., Grand Forks, N. D., Fort Knox, Ky.
MAILLIARD, Robert Eloy, Captain, Storm Lake, Iowa, Fort Knox, Ky.
MULLINIKS, Edward Cotham, 1st Lieut., Springfield, Mo., Fort Knox, Ky.
NELSON, Nesmith Perry, Captain, Brainerd, Minn., Fort Knox, Ky.
NEMEC, Edward Charles, 1st Lieut., Omaha, Fort Knox, Ky.
NEUMAIER, Arthur, 1st Lieut., Lindstrom, Minn., Fort Knox, Ky.
NEWPORT, Pearce Everett, Captain, Clarinda, Iowa, Fort Knox, Ky.
NORALL, Victor Delmer, 1st Lieut., Lexington, Neb., Fort Knox, Ky.
O'BRIEN, William Martin, Captain, St. Paul, Fort Knox, Ky.
O'NEAL, Harold Elmo, Captain, Tipton, Iowa, Fort Knox, Ky.
PERLMAN, Everett Charles, Captain, Minneapolis, Fort Knox, Ky.
PLOTKE, Harry Louis, 1st Lieut., Little Falls, Minn., Fort Meade, S. D.
RICE, Grover Cleveland, Major, Kansas City, Mo., Fort Knox, Ky.
RILEY, Warren Sumner, Captain, El Dorado, Ark., Fort Knox, Ky.
RUPPF, Carl Walter, Captain, Faribault, Minn., Fort Knox, Ky.
RYAN, John Joseph, Major, St. Louis, Fort Knox, Ky.
SHUPE, Lester L., 1st Lieut., Fairbury, Neb., Fort Leonard Wood, Mo.
SPAFFORD, Allen Leo, Captain, Oswatomie, Kan., Fort Knox, Ky.
STOCK, Maurice Frederick, 1st Lieut., St. Louis, Fort Riley, Kan.
SWEDENBURG, Paul Alexander, Captain, Swanville, Minn., Fort Knox, Ky.
TATE, Waddy Phocion, Jr., Captain, St. Louis, Fort Knox, Ky.
THOMPSON, Floyd Ammann, Captain, St. Paul, Fort Knox, Ky.
WELLS, Aubrey Hanson, 1st Lieut., Boonville, Mo., Fort Leonard Wood, Mo.
WILLIAMS, Martin Palmer, Captain, Franklin, Neb., Fort Knox, Ky.
WILLIAMS, Pearl Alexander, 1st Lieut., St. Louis, Camp Livingston, La.
WINDER, Clifford D., Captain, Waterloo, Iowa, Fort Knox, Ky.
ZARCHY, Alex Cecil, 1st Lieut., Des Moines, Iowa, Fort Knox, Ky.

Orders Revoked

BENESH, Louis Alfred, 1st Lieut., Minneapolis, Fort Francis E. Warren, Wyo.
BRICKER, Eugene Myron, 1st Lieut., Columbia, Mo., Fort Leonard Wood, Mo.
COLLINS, Leigh George, 1st Lieut., West Point, Neb., Fort Ord, Calif.
CRAWFORD, William Henry, Major, Omaha, Fort Ord, Calif.
WHITE, Charles Herbert, 1st Lieut., Kansas City, Mo., Fort Leonard Wood, Mo.

NINTH CORPS AREA

The following additional medical reserve officers have been ordered to extended active duty by the Commanding General, Ninth Corps Area, which comprises the states of Washington, Montana, Oregon, Nevada, Utah, California and Idaho:

ABRAMSON, Arthur J., 1st Lieut., San Francisco, Fort Ord, Calif.
ALLEN, Carlton S., Major, Los Angeles, Southern California Military District, Los Angeles.
ANDREWS, A. V., 1st Lieut., Livingston, Calif., Camp San Luis Obispo, Calif.
ARMOUR, Paul S., 1st Lieut., Seattle, Fort Lewis, Wash.
ATKINS, Charles B., Captain, Portland, Ore., Vancouver Barracks, Wash.
BREGER, Samuel, Captain, San Francisco, Fort Scott, Calif.
CHAIN, John S., 1st Lieut., Eureka, Calif., Presidio of Monterey, Calif.
CHRISTENSEN, Chester H., 1st Lieut., Bountiful, Utah, 9th Army Corps, Fort Lewis, Wash.
COATS, Robert M., 1st Lieut., Weiser, Ida., 3d Medical Battalion, Fort Lewis, Wash.
COTTRELL, George W., 1st Lieut., Portland, Ore., Fort Lewis, Wash.
DAGGETT, Gilbert G., 1st Lieut., Madera, Calif., Fort Worden, Wash.
DONAHEY, Victor V., 1st Lieut., Los Angeles, Camp San Luis Obispo, Calif.
DUNCAN, David G., 1st Lieut., Council, Ida., 41st Division, Camp Murray, Wash.
EASLEY, Clifford E., 1st Lieut., Redondo Beach, Calif., First Medical Regiment, Fort Ord, Calif.
ECK, Raymond L., 1st Lieut., Lewiston, Mont., Fort Lewis, Wash.
GANTENBEIN, Calvin E., Captain, Portland, Ore., Fort Lewis, Wash.
GOLDMAN, Mervin J., 1st Lieut., San Francisco, Fort Winfield Scott, Calif.
GORDON, Kenneth W., 1st Lieut., Los Angeles, Camp Callan, Torrey Pines, Calif.
GREEN, Ray Carr, Captain, San Bernardino, Calif., Camp Haan, Riverside, Calif.
HALE, Warren W., Captain, Portland, Ore., Fort Lewis, Wash.
HANNA, Curtis M., 1st Lieut., San Diego, Calif., Fort Ord, Calif.
HOLLOMBE, Samuel M., 1st Lieut., Los Angeles, First Medical Regiment, Fort Ord, Calif.
HUME, Wayne S., 1st Lieut., Pasadena, Calif., Camp Roberts, Calif.
KESLING, Emmett F., 1st Lieut., Wilmington, Calif., Presidio of Monterey, Calif.
KING, Stuart D., 1st Lieut., Pasadena, Calif., Fort Ord, Calif.
KIRK, Arthur H., 1st Lieut., Fresno, Calif., Seventh Division, Fort Ord, Calif.
KOSITCHEK, Robert J., 1st Lieut., Los Angeles, Seventh Division, Fort Ord, Calif.
KUFFEL, Mark J., 1st Lieut., Los Angeles, Seventh Division, Fort Ord, Calif.
LEVIN, Edward A., 1st Lieut., San Francisco, Fort Scott, Calif.
LEWIS, Thomas T., 1st Lieut., Bakersfield, Calif., 7th Division, Fort Ord, Calif.
LINNE, Francis B., 1st Lieut., Los Angeles, Camp Callan, Torrey Pines, Calif.
MacDOUGALL, Walter H., Captain, Oswego, Ore., Fort Lewis, Wash.
MANDELL, Joseph, 1st Lieut., Los Angeles, Fort Ord, Calif.
MARSHALL, Joseph W., 1st Lieut., Twin Falls, Ida., 3d Medical Battalion, Fort Lewis, Wash.
MASON, Charles E., Captain, Temple City, Calif., First Medical Regiment, Fort Ord, Calif.
McKENNA, Stephen E., 1st Lieut., Los Angeles, Camp Callan, Torrey Pines, Calif.
MEILSTRUP, Drew B., Captain, Salt Lake City, Camp San Luis Obispo, Calif.
MERRET, Russell J., 1st Lieut., Dunsmuir, Calif., Seventh Division, Fort Ord, Calif.
MILLER, Benjamin F., 1st Lieut., Yuba City, Calif., Fort Ord, Calif.
MITCHELL, William J., 1st Lieut., Alhambra, Calif., Seventh Division, Fort Ord, Calif.
MOHUN, Charles C., 1st Lieut., San Francisco, First Medical Regiment, Fort Ord, Calif.
MUDRY, Joseph, 1st Lieut., San Pedro, Calif., Fort Ord, Calif.
MUNGER, Irvin A., Captain, Vancouver, Wash., Vancouver Barracks, Wash.

MURPHY, Morton J., 1st Lieut., Redding, Calif., 7th Division, Fort Ord, Calif.
NETHERY, William M., 1st Lieut., Covina, Calif., Fort Ord, Calif.
PERRY, William J., 1st Lieut., Chico, Calif., Camp Callan, Torrey Pines, Calif.
PHETTEPLACE, Dale Oscar, 1st Lieut., Fullerton, Calif., Presidio of Monterey, Calif.
PIERCY, Watt H., 1st Lieut., Hillsboro, Ore., Fort Lewis, Wash.
PITMAN, Harry Theron, 1st Lieut., Fresno, Calif., Fort Ord, Calif.
POTASZ, Thomas M., Captain, Los Angeles, Camp Callan, Torrey Pines, Calif.
PRIVETT, Lowell B., Captain, Boise, Ida., Fort Lewis, Wash.
QUINN, William J., 1st Lieut., San Francisco, Camp McQuaide, Calif.
ROSS, Weldon T., 1st Lieut., McMinnville, Ore., Fort Lewis, Wash.
RUKKE, Raymond V., 1st Lieut., Monterey, Calif., Fort Ord, Calif.
SCHADE, Frank F., Captain, Los Angeles, Camp Callan, Torrey Pines, Calif.
SHACHTMAN, Joseph M., 1st Lieut., Los Angeles, Camp Callan, Torrey Pines, Calif.
SILVERGLADE, Alexander, 1st Lieut., Livermore, Calif., 30th Infantry, Presidio of San Francisco, Calif.
SIMARD, Ernest E., 1st Lieut., Los Angeles, Fort Ord, Calif.
SMITH, Gordon K., Captain, Portland, Ore., Fort Lewis, Wash.
SOLTER, Nathan, 1st Lieut., Santa Cruz, Calif., Fort Scott, Calif.
SORENSON, Edward J., 1st Lieut., Beverly Hills, Calif., Fort Ord, Calif.
STARR, Harvey E., 1st Lieut., Los Angeles, March Field, Calif.
STEELE, John G., 1st Lieut., Boise, Ida., Fort Douglas, Utah.
STILWELL, Leland E., Captain, Hollywood, Calif., Camp Callan, Torrey Pines, Calif.
SUCKOW, George R., Captain, Portland, Ore., Fort Lewis, Wash.
SWERDLOFF, Harold, 1st Lieut., Los Angeles, Camp Roberts, Calif.
TAYLOR, Leonard M., 1st Lieut., San Bernardino, Calif., Camp Haan, Riverside, Calif.
TERRY, James G., 1st. Lieut., San Francisco, Camp San Luis Obispo, Calif.
THUESEN, Andrew E., 1st Lieut., San Quentin Prison, Calif., Fort Ord, Calif.
WALKER, Leon R., 1st Lieut., Monterey Park, Calif, Fort Ord, Calif.
WESTERHOUT, Fritz C., Captain, Manhattan Beach, Calif., Camp Callan, Torrey Pines, Calif.
WHITAKER, Joseph L., 1st Lieut., Bakersfield, Calif., Seventh Division, Fort Ord, Calif.
WHITE, Ralph E., 1st Lieut., Santa Ana, Calif., Fort Ord, Calif.
WILSON, Warren A., 1st Lieut., Los Angeles, Fort Ord, Calif.
WORO, Benjamin, Captain, Chowchilla, Calif., First Medical Regiment, Fort Ord., Calif.
YOUNG, Erwin L., Captain, San Diego, Calif., Camp Callan, Torrey Pines, Calif.
ZESCHIN, Oscar L., American Falls, Ida., Fort Worden, Wash.
ZUKOVICH, George E., Captain, San Diego, Calif., Fort Rosecrans, Calif.

Ordered for Instruction

CAMPBELL, Robert M., 1st Lieut., Helena, Mont., Carlisle Barracks, then to Camp Grant, Ill.
FATTIC, Grover R., 1st Lieut., Hot Springs, Mont., Carlisle Barracks, then to Camp Grant, Ill.
GNOSE, Donald D., 1st Lieut., Townsend, Mont., Carlisle Barracks, then to Camp Grant, Ill.
MacKENZIE, Duncan Stuart Jr., 1st Lieut., Havre, Mont., Carlisle Barracks, then to Camp Grant, Ill.
ROSS, Theodore V., 1st Lieut., Ely, Nev., Carlisle Barracks, then to Camp Grant, Ill.

Relieved from Duty or Resigned

HIGGINS, John W., 1st Lieut., resigned.
LUND, Grant, 1st Lieut., relieved from duty.
MOHUN, Charles C., 1st Lieut., orders revoked.

NAVAL RESERVE OFFICERS ON ACTIVE DUTY

The following medical officers of the U. S. Naval Reserve have reported for active duty:

BOUNDS, Lemann H., Lieut. (j. g.), M. C.-V. (S.), New Orleans Naval Reserve Air Base, New Orleans.
BOWSER, Frank E., Lieut., M. C.-V. (G.), Key West, Fla., Naval Air Station, Key West, Fla.
CAMPBELL, Charles A., Lieut. (j. g.), M. C.-V. (G.), Adrian, Mich., Naval Recruiting Station, Detroit.
DUNCAN, Ralph E., Lieut. Comdr. M. C.-V. (G.), Kansas City, Mo., Naval Reserve Air Base, Kansas City, Kan.
FLEISCHER, Harold W., Lieut. (j. g.), M. C.-V. (G.), Chelsea, Mass., Naval Training Station, Newport, R. I.
FORRESTER, Charles R., Lieut. (j. g.), M. C.-V. (G.), Toledo, Ohio, Naval Air Station, San Diego, Calif.
FREGOSI, Henry J., Lieut., M. C.-V. (S.), Rutland, Vt., Dispensary, Inshore Patrol Base C, East Boston, Mass.
GOLDSMITH, Lauren Holmes, Lieut. Comdr., M. C.-V. (S.), Atlanta, Ga., Sixth Naval District.
HAGUE, Robert F., Lieut. Comdr., M. C.-O., Flint, Mich., Naval Training Station, Great Lakes, Ill., Henry Ford School.
HATCH, Joseph C., Lieut., M. C.-V. (S.), Johnstown, Pa., Norfolk Naval Hospital.
HAWES, John K., Lieut., M. C.-V. (G.), Brooklyn, Third Naval District, Naval Reserve Flight Selection Board.
HEINLEIN, John A., Lieut. (j. g.), M. C.-V. (G.), Brooklyn, Naval Hospital, Brooklyn.
HOLM, Alf. J., Lieut. Comdr., M. C.-V. (S.), Chicago, Naval Reserve Midshipmen School, Chicago.
HUNTINGTON, Robert W., Jr., Lieut. M. C.-V. (S.), New York, Naval Hospital, Newport, R. I.
JOHNSRUD, Russell L., Lieut. (j. g.), M. C.-O., Portland, Ore., Naval Reserve Recruiting Station, Portland, Ore.
KAHLE, Warren F., Lieut. Comdr., M. C.-V. (S.), Larchmont, N. Y., Norfolk Naval Hospital.
KANE, John T., Lieut. (j. g.), M. C.-V. (G.), Binghamton, N. Y., Naval Hospital, Newport, R. I.
KRUEGER, Albert P., Comdr., M. C.-V. (S.), Berkeley, Calif., Laboratory Research Unit No. 1, San Francisco.
LUCE, James C., Lieut. (j. g.), M. C.-V. (G.), Oakland, Calif., Naval Hospital, Mare Island, Calif.
MacGOWAN, Birkhead, Lieut. Comdr., M. C.-V. (S.), Baltimore, Navy Yard, Charleston, S. C.
MACKINNON, Donald G., Lieut. (j. g.), M. C.-V. (G.), Exeter, Calif., 2d Marine Division, F. M. F., Marine Corps Base, San Diego, Calif.
MANLEY, John G., Lieut. Comdr., M. C.-V. (S.), Philadelphia, Norfolk Naval Hospital.
MARTIN, James R., Lieut., M. C.-V. (S.), Houston, Texas, Naval Reserve Air Base, Dallas, Texas.
MASON, Malcolm W., Lieut., M. C.-V. (S.), New York, Third Naval District.
McKITTERICK, John C., Lieut. Comdr., M. C.-O., Burlington, Iowa, Naval Training Station, Great Lakes, Ill.
MOSELEY, Lonnie B., Lieut., M. C.-V. (S.), Jackson, Miss., Naval Hospital, Parris Island, S. C.
NEILSON, John, Jr., Lieut. Comdr., M. C.-V. (S.), New York, Naval Torpedo Station, Newport, R. I.
NELSON, Charles M., Lieut. (j. g.), M. C.-V. (S.), Richmond, Va., Norfolk Naval Hospital, Portsmouth, Va.
NEWHOUSE, Newman H., Lieut. (j. g.), M. C.-V. (S.), Charleston, W. Va., Naval Air Station, Jacksonville, Fla.
O'TOOLE, John B., Lieut. (j. g.), M. C.-V. (G.), New Bedford, Mass., Naval Hospital, Newport, R. I.
PARKER, Thomas, Lieut. (j. g.), M. C.-V. (S.), Charleston, S. C., 6th Naval Dist., Flight Selection Board, Atlanta, Ga.
PARRISH, James, Lieut. (j. g.), M. C.-V. (S.), Portsmouth, Va., Navy Yard, Norfolk, Va.
PEARCE, James H., Lieut. (j. g.), M. C.-V. (G.), Dillon, S. C., Naval Hospital, Parris Island, S. C.
PERCY, Archibald E., Jr., Lieut. (j. g.), M. C.-V. (G.), Alexandria, La., Naval Air Station, Alameda, Calif.
PETERSON, Thomas H., Lieut. Comdr., M. C.-V. (S.), Boston, Naval Hospital, Chelsea, Mass.
PIEPER, Howard C., Lieut. (j. g.), M. C.-V. (G.), Long Branch, N. J., 9th Naval District, Flight Selection Board.
POLLOCK, Bruce H., Lieut., M. C.-V. (S.), Norfolk, Va., Norfolk Navy Yard, Portsmouth, Va.
PRICE, Richard H., Lieut. Comdr., M. C.-V. (S.), Quantico, Va., Receiving Ship, Norfolk, Va.
RECH, Joseph F., Lieut., M. C.-V. (S.), Indiana, Pa., Norfolk Naval Hospital.
REYMONT, Anthony E., Lieut. Comdr., M. C.-V. (G.), Santa Fe, N. M., 2d Marine Brigade, F. M. F., Marine Corps Base, San Diego, Calif.
ROBINSON, Edwin G., Lieut., M. C.-V. (S.), Portland, Ore., Naval Hospital, Mare Island, Calif.
ROGERS, John W., Lieut., M. C.-V. (S.), New York, Naval Training Station, Norfolk, Va.
RUSSELL, William M., Lieut. Comdr., M. C.-V. (S.), Bridgeport, Calif., Naval Training Station, San Diego, Calif.
SCHIRMER, Adelbert F., Lieut., M. C.-V. (S.), Boston, Naval Air Station, Jacksonville, Fla.
SCHMOELE, John M., Lieut. Comdr., M. C.-V. (S.), Los Angeles Naval Dispensary, Long Beach, Calif.
STEWART, Wayne H., Lieut. (j. g.), M. C.-O., Coraopolis, Pa., Naval Recruiting Station, Pittsburgh.
STRACK, Jerome A., Lieut. (j. g.), M. C.-V. (G.), South Orange, N. J., Submarine Base, New London, Conn.
SULZBERGER, Marion B., Lieut. Comdr., M. C.-V. (S.), New York, Naval Hospital, Philadelphia.
TENNEY, Benjamin, Jr., Lieut. Comdr., M. C.-V. (S.), Boston, Naval Hospital, Portsmouth, N. H.
THORNHILL, William A., Jr., Lieut. (j. g.), M. C.-V. (G.), Charleston, W. Va., Naval Reserve Recruiting Station, Charleston, W. Va.
WATTLES, Frank M., Lieut. (j. g.), M. C.-V. (S.), Jacksonville, Fla., Naval Air Station, Jacksonville, Fla.
WEBBER, Joseph T., Lieut. (j. g.), M. C.-V. (G.), Brooklyn, Marine Barracks, Quantico, Va.
WHITEHEAD, Hugh G., Jr., Lieut., M. C.-O., Baltimore, Fitzsimons General Hospital, Denver.
WOLF, Horace L., Lieut. (j. g.), M. C.-V. (G.), New Orleans, 2d Marine Division, F. M. F., Marine Corps Base, San Diego, Calif.

REGULAR ARMY ORDERS

BOWERS, Garvey B., Captain, from Fort Hayes, Ohio, to the Puerto Rican Department, sailing from New York, February 25.
BOWERS, John A., 1st Lieut., and CUNNINGHAM, George R., 1st Lieut., from Fort Hayes, Ohio, to the Puerto Rican Department, sailing from New York, February 25.
COGAN, Leo J., Captain, from Chanute Field, Ill., to the Hawaiian Department, sailing from New York, March 1.
DUTROW, Howard V., Major, and SHAPIRO, William M., Major, from Fort Hayes, Ohio, to the Puerto Rican Department, sailing from New York, February 25.
GILES, Robert W., 1st Lieut., from Fort Riley, Kan., to the Philippine Department, sailing April 2 from New York.
GOLD, Jacob L., Captain, from New York Port of Embarkation, Brooklyn, to the Hawaiian Department, sailing from New York, March 1.
GOLDMAN, Sidney S., Major, from Fort Monroe, Va., to the Puerto Rican Department, sailing from Newport News, Va., February 26.
HAINES, John W., 1st Lieut., from Washington, D. C., to the Philippine Department.
SICILIANO, Thomas, Captain, from Fort Dix, N. J., to the Hawaiian Department, sailing March 1 from New York.
STERN, Sigfried, 1st Lieut., from New York to the Puerto Rican Department, sailing February 25.
WONG, James S. F., Captain, from Fort Bragg, N. C., to the Hawaiian Department, sailing from Charleston, S. C., March 17.

The following officers from the station named to the Puerto Rican Department, sailing from New York, February 25:

BLOOM, Norman B., 1st Lieut., Fort Sheridan, Ill.
EISNER, David G., 1st Lieut., Fort Benjamin Harrison, Ind.
KENNEDY, Richard L., 1st Lieut., Fort Sheridan, Ill.
LITTER, Leo, 1st Lieut., Fort Hancock, N. J.
LOMBARDI, Anthony L., 1st Lieut., Fort Dix, N. J.
LYTLE, Robert P., Captain, Fort Benjamin Harrison, Ind.
RUSSELL, Lecky H., Major, New York.
STINSON, Charles L., 1st Lieut., New York.
ZEMAN, Laddie W., 1st Lieut., Fort Sheridan, Ill.

The following officers from the station named to the Puerto Rican Department, sailing from Charleston, S. C., February 27:

BRYAN, Malvern T., 1st Lieut., Fort Jackson, S. C.
HEATH, Rudolph W., 1st Lieut., Fort Jackson, S. C.
POLLACK, David, 1st Lieut., Fort Bragg, N. C.
SMITH, Jack L., 1st Lieut., Camp Blanding, Fla.
TOPP, Olfert W., 1st Lieut., Fort Bragg, N. C.

FEBRUARY QUOTA OF NURSES FILLED

The War Department announced on February 24 that the February quota of 325 nurses needed to staff hospitals at Army training centers at Fort Devens, Mass., Indiantown Gap, Pa., and Camp Forrest, Tenn., has been reached.

The Surgeon General reported also that the American Red Cross in December enrolled an additional 1,196 nurses for the Red Cross First Reserve. There are now more than 21,000 nurses in the First Reserve, which includes those available for service in the Army Nurse Corps in an emergency.

The Surgeon General urged that all eligible nurses enroll with the Red Cross Nursing Service immediately to permit a studied classification as to qualification and age and thereby make it possible to develop a reserve that will be available immediately in any eventuality. He pointed out that it is desirable to limit applications for Army service to those who are registered with the Red Cross, as much time and correspondence are spared in the investigation of basic qualifications. There were 1,239 reserve nurses on duty and under orders to report in the nine corps areas as of February 1, the report said.

HOSPITAL SOCIAL SERVICE BY THE RED CROSS

The erection of a social service and recreation building at all army station hospitals of five hundred beds or more is contemplated to function as a part of the hospital organization and under the administrative control of the commanding officer of the hospital. Each building will consist of an assembly room for patients, for the reception of friends and relatives and for medically approved entertainments. The Red Cross will furnish personnel for duty prior to completion of this construction where the need exists. In conformity with the act of incorporation of Jan. 5, 1905, the Red Cross has for many years conducted a program of hospital social service for patients in army general hospitals.

REPORT ON COLLECTION OF BLOOD PLASMA FOR BRITAIN

The Blood Transfusion Betterment Association has made a report on its project to provide blood plasma for Britain, carried on jointly with the American Red Cross from August 1940 to January 1941, according to the New York *Times*. Blood was collected from 14,556 American volunteers, and the total plasma saline solution produced for shipment to England was about 5,500 liters. The cost of producing the plasma was about $40,500, about 10 per cent of its actual market value. The Red Cross provided $25,000 of the cost and the association gave $15,000. In addition to the volunteer donors, much of the work was done by volunteers, notably by the New York and Brooklyn chapters of the Red Cross. Nine voluntary hospitals carried out the work of taking the blood and preparing the plasma. The report pointed out that among almost 17,000 donors no instance was reported of any serious after-effects of the donation.

Under a plan suggested for the United States, it would be possible to collect 25,000 liters of blood from 100,000 donors in ten cities over a period of six months. The report recommended that one or two central stations be established to take blood and that a trial be made of mobile units to go to industrial plants, large stores and offices to obtain blood from large groups.

The report recommended that the blood be processed in a central laboratory under control of a single agency responsible for all technical procedures and that a model laboratory be set up in New York immediately, at which new and improved processes for preparing blood plasma might be tried out.

DR. HOUSER GOES TO ENGLAND

Dr. Gerald F. Houser, assistant director of the Massachusetts General Hospital, Boston, sailed on March 15 to take over his position as superintendent of the new American Red Cross-Harvard University Hospital in England. The hospital has been prefabricated in this country and is being shipped in parts to England for assembly. With Dr. Houser were Harold B. Foy, Washington, D. C., who will be director of accounts, and Kingsley Van A. Gwyer, an engineer, who will supervise the construction. Dr. John E. Gordon, professor of preventive medicine and epidemiology in the Harvard Medical School, is general director of the hospital, which will be a center for the study and treatment of communicable disease under wartime conditions.

MANPOWER OF THE UNITED STATES

The military manpower of the United States at present, according to statisticians of the Metropolitan Life Insurance Company, amounts to 28,000,000 between the ages of 18 and 44 and this number is expected to increase to a high point of 30,300,000 about the year 1955. Then it is expected to decrease so that by 1980 there will be 28,400,000 men of military ages, or 18.5 per cent of the total population. The total population of all ages, however, will continue to increase until about 1980. The number of men between the ages covered by the present Selective Service Act, that is, ages 21 to 35, increased from about 10,000,000 in 1900 to almost 16,400,000 in 1940, and in 1950, the year of maximum number of this age group, it will be about 17,800,000, or 12.6 per cent of the total population. However, by 1980 the number of men in this age rank, it is said, will decline to 15,900,000, or 10.4 per cent of the total population. Men of the age groups 18 to 20 years have increased from 2,200,000 in 1900 to 3,700,000 in 1940, but their number will diminish steadily in the coming years and by 1980 it may be about 3,100,000. Here we have clear evidence, the statisticians say, of the effect of the decline of the number of births in our population within the last two decades. The other group of men of ages 36 to 44 will not reach a peak number until about the year 1965. The number of men in the United States for this age group increased from 4,300,000 in the year 1900 to about 8,000,000 in 1940, and a maximum of 10,400,000 men of this age group is expected in 1965.

ORGANIZATION SECTION

AMERICAN MEDICAL ASSOCIATION ON TRIAL

THE TRIAL OF THE CASE OF THE UNITED STATES OF AMERICA

VS.

THE AMERICAN MEDICAL ASSOCIATION, A CORPORATION, THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, A CORPORATION, THE HARRIS COUNTY MEDICAL SOCIETY, AN ASSOCIATION, THE WASHINGTON ACADEMY OF SURGEONS, AN ASSOCIATION, ARTHUR CARLISLE CHRISTIE, COURSEN BAXTER CONKLIN, JAMES BAYARD GREGG CUSTIS, WILLIAM DICK CUTTER, MORRIS FISHBEIN, THOMAS ALLEN GROOVER (DECEASED), ROBERT ARTHUR HOOF, ROSCO GENUNG LELAND, THOMAS ERNEST MATTINGLY, LEON ALPHONSE MARTEL, FRANCIS XAVIER MCGOVERN, THOMAS EDWIN NEILL, EDWARD HIRAM REEDE, WILLIAM MERCER SPRIGG, WILLIAM JOSEPH STANTON, JOHN OGLE WARFIELD JR., OLIN WEST, PRENTISS WILLSON, WILLIAM CREIGHTON WOODWARD, WALLACE MASON YATER, JOSEPH ROGERS YOUNG.

(Continued from page 1297)

MARCH 7—MORNING

DECISION OF THE COURT ON THE MOTION FOR A DIRECTED VERDICT

THE COURT:—Acting on the motion made in behalf of the defendants for a directed verdict: In my opinion, the evidence is insufficient to justify the submission of the case to the jury as to the following defendants:

Harris County Medical Society.
Washington Academy of Surgery.
Leon Alphonse Martel.
Joseph Rogers Young.

As to the other defendants I think the evidence is sufficient to put them on their defense and, accordingly, the motion will be denied as to them.

Agreeably to this announcement, ladies and gentlemen of the jury, I now direct you to return a verdict of not guilty as to these defendants:

Harris County Medical Society.
Washington Academy of Surgery.
Leon Alphonse Martel.
Joseph Rogers Young.

You will carry out that instruction.

The Assistant Clerk:—Members of the jury, pursuant to the direction of the Court you will find the defendants:

Harris County Medical Society,
Washington Academy of Surgery,
Leon Alphonse Martel,
Joseph Rogers Young,

not guilty.

That is your verdict, each and all of you?

The Jurors:—Yes.

THE COURT:—Ladies and gentlemen of the jury: Perhaps I should make this observation to you. The fact that I have granted a motion for a directed verdict against certain defendants, taken in connection with the fact that I have denied it as to others, should not in any wise be taken by you as any suggestion or intimation on my part as to what final conclusion you should come as to those defendants to whom I have denied the motion. I have simply determined as to them that there is insufficient evidence to justify the submission of the case to the jury; at least to the point of making them put on their defense.

You will, as you have up to this time, keep an open mind; listen attentively to the evidence; hold in abeyance any conclusion until the case is finally submitted to you after argument by counsel and the proper instructions by the Court. Then, when the case is submitted to you, it will become your duty jointly to deliberate and consider these matters; until then to be impartial and fair you should keep your mind open.

TESTIMONY OF FRANCIS J. EISENMAN

DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, I think you have already told us you are the superintendent of Garfield Hospital? *A.*—Yes.

The witness identified the clinical record of Miss Sarah Abbott.

He also identified the clinical record of Miss Elizabeth Tew.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Who is Dr. Holtzman? *A.*—Dr. Holtzman was the resident in medicine at Garfield a year or two ago.

Q.—Does that record show how long the patient here was in the hospital? *A.*—Yes.

Q.—Can you tell us how long Miss Sarah Abbott was in the hospital? *A.*—Jan. 27, 1938 to Feb. 17, 1938.

Q.—That would be how many days? *A.*—Twenty-one days.

Q.—You have no personal knowledge of the facts stated in this hospital history, have you? *A.*—No, sir.

Q.—Who is Dr. Kreutzberg? *A.*—He was the resident in medicine at that time.

Q.—Dr. Dugan, I believe you said, was the assistant resident in surgery at that time. Now, does that refresh your recollection as to Dr. Kreutzberg? *A.*—No, Dr. Dugan was also the resident the following year.

TESTIMONY OF B. BRENT SANDIDGE

DIRECT EXAMINATION

By Mr. Leahy:

Q.—Mr. Sandidge, I think you told us you are the superintendent of Emergency? *A.*—Yes.

The witness identified the clinical record of Miss Abbott.

Q.—Now, you mentioned an "emergency room." Just what part of your hospital at the time this card was made out was the emergency room? *A.*—The accident operating rooms; and the nurses, doctors, and resident kept to treat emergency cases that are brought to the hospital when they are first brought in prior to the definite diagnosis, and given immediate emergency treatment, if it is needed.

Q.—You used the phrase "emergency cases"; what character or type of cases do you so classify? *A.*—Any case that is brought to the emergency room, with a serious injury or not. If the case goes through the emergency room we return it simply for record as an emergency case. In some instances they are not really what you might call an emergency, but it comes from that department and the record is made.

Q.—What happens to them then? *A.*—They are filed in the regular filing records in that department.

The witness identified a formal release, releasing the hospital of any result which may follow occasioned by the patient leaving the hospital against the judgment of the doctor.

Q.—Now, under the rules and regulations of your hospital in force at the time on which that particular release was executed, what was your rule with reference to releases and their execution? *A.*—If, in the judgment of the doctor in attendance in the emergency room, the patient should remain longer and for some reason they do not, on their own accord, we instruct our doctors and nurses to get a formal release signed by the patient leaving it with the hospital as a release of the hospital from any responsibility.

Q.—Some names appear on the face of this card, I think. Now, do you know where this man with this funny name is? How do you pronounce that? *A.*—That is M-a-c-k-o-w-i-a-k.

Q.—Do you know where he is? Is he in Washington, to your knowledge? *A.*—The latest information, if I remember correctly, I notice in a hospital journal, he had been called into selective service; the region was near Baltimore, Maryland.

Q.—Who is this man; what is his name? *A.*—Gerber. He was the chief resident at the hospital.

Q.—At that time he was chief resident at the hospital; will this cover Sept. 7, 1938? *A.*—Yes, he was chief resident at that time.

Q.—Do you know where he is now? Have you seen him recently? *A.*—He is at the Sinai Hospital, New York City.

Q.—There is a name "Fry" on there: Do you know where the party who bears that name is? *A.*—Still at Emergency.

Q.—Did you in 1938 have as an official at the hospital there a man named McKeever? *A.*—Yes.

Q.—What position did he hold at that time? *A.*—He was night superintendent, night office man. After the day's business closed he was in charge of the hospital during the night.

Q.—What were his duties as night superintendent or supervisor? *A.*—His duties were to take over the general duties of the hospital, such as mine were in the day; rooming patients, and any argument or difficulty that came up to his attention, to try to adjust them, or call some high official at his home, if necessary.

Q.—At that time, Sept. 7, 1938, can you tell us, Mr. Sandidge, whether you kept a list of the doctors who were on the staffs, either the general or courtesy staff of the hospital, any place there in the hospital office? *A.*—Yes, we maintain a courtesy file in the admitting office.

Q.—How do you maintain that file? *A.*—It is a regular file, a sliding file, with all the doctors' names listed, and indicating the kind of service they are permitted to perform in the hospital, as having been approved by the officials of the hospital.

Q.—Was this man McKeever a doctor? *A.*—No, a layman.

Q.—Do you know where Mr. McKeever is now? *A.*—He is on the high seas; he is in the service, Naval Reserve.

Q.—I have been asked to request of you to say whether certain numerals on the line there across from "treatment"—there is "2/2/10." Can you identify those numerals, or why they were put there: what is the significance? *A.*—Yes. I would rather you would ask one of the professional people what that is.

TESTIMONY OF RUTH McCLELLAND

DIRECT EXAMINATION

Miss Ruth McClelland said she has been employed at Sibley Hospital about five and a half years as a record room assistant. She identified records of a former patient at Sibley.

TESTIMONY OF MILLINA M. REALINI

DIRECT EXAMINATION

By Mr. Leahy:

Millina M. Realini is supervisor of medicine and surgery at Sibley Hospital and has been since January 1938. Her duties are to make rounds and visit every patient, and watch the nurses, so that they carry out the doctors' orders in the correct way. At present she works from seven in the morning until three in the afternoon.

The witness identified the charts and admission card of Charles Hardin.

Q.—Do you remember when he came into Sibley Hospital? *A.*—I can't recall definitely. I know he came in, naturally I signed; I don't think I could identify the man now.

Q.—You remember a man of that name coming to the hospital? *A.*—Yes, I do.

Q.—Have you an independent recollection? Can you tell us without looking at that record the date of his entry? *A.*—No.

Q.—Taking the record which you say you made at the time, will you now tell us when he came to the hospital? *A.*—He was admitted at 11:45 p. m., June 19, 1938.

Q.—Did anyone come with him? *A.*—I believe his brother-in-law was with him, and his wife.

Q.—Do you remember the name of the brother-in-law now? *A.*—No, I do not.

Q.—Do you think if you heard the name you could recall it? *A.*—Possibly.

Q.—Was it a Mr. Booth? *A.*—No, sir.

Q.—You mean it was not, or you don't remember? *A.*—I couldn't remember; it doesn't sound familiar.

Q.—What was done when he came in the hospital that night? *A.*—You mean the patient?

Q.—Yes? *A.*—He was already booked for an operation before I took over the duties. When the admitting nurse went off she reported there was an operation schedule for 11:45 p. m. She told me Dr. Bachrach was to be the surgeon and the patient would be in in time.

Q.—Do you know Dr. Bachrach? *A.*—Yes.

Q.—Did you see him there that night? *A.*—No.

Q.—Do you know Dr. Solet? *A.*—I don't know him very well; I think possibly if I saw him I would recognize him.

Q.—Do you know whether Dr. Solet was at the hospital that night? *A.*—I didn't see him.

Q.—As you recall, did Mr. Hardin come in with his wife, and do you think his brother-in-law was with him? *A.*—I know his brother-in-law was with him.

Q.—Did you see any attending physician with him that night? *A.*—No, sir.

Q.—Or a surgeon? *A.*—No.

Q.—From whom did you get the information which you wrote? *A.*—From his wife.

Q.—And you recorded very accurately the information which you have given me? *A.*—Yes, this information was given by his wife.

Q.—And was that given in response to questions which you put to her? *A.*—Yes, I think so; I don't know, but I think so.

Q.—In other words, did you ask her the questions to elicit the information which you have on this report? *A.*—Yes.

Q.—It was part of your duties to fill that in? *A.*—Yes.

Q.—Now what happened to Mr. Hardin after he came to the hospital? *A.*—Well, he was sent to the floor immediately and, since the operation was booked at 11:45, and he came in at the same time, I had to take him to the floor immediately. Then I went to the admitting office to fill out his admission record.

Q.—And did anything occur after you went back to your admitting office? *A.*—Yes.

Q.—What was it that occurred? *A.*—Mr. Hardin's brother-in-law was sitting at the desk.

Q.—What desk? *A.*—At the admitting desk, in the admitting room, in the admitting office.

Q.—Do you recall how it was he came to be sitting at that desk? *A.*—I don't recall how he came there. I would say that possibly he may have given me the information, but I don't remember.

Q.—Do you recall whether he left the admitting office at any time before you saw him sitting at the desk? *A.*—I didn't leave the admitting office; not at that time.

Q.—How long do you think it was from the time you left your office to go with Mr. Hardin until you got back to your admitting office? *A.*—Possibly two minutes; it was only on the second floor.

Q.—Did Mr. Booth say anything to you—Pardon me—whoever his brother-in-law is: Did he say anything to you? *A.*—Not a word; I brought the patient upstairs.

Q.—When you returned to your admitting office did he ask you anything? *A.*—He asked if I could let him use the telephone, which request I granted.

Q.—Did he say why he wanted to use the phone? *A.*—No, sir.

Q.—Did you stay in the office while he used the phone? *A.*—Yes.

Q.—Could you hear what he was saying, that is, on his end of the phone? *A.*—No, I was occupied, but from the conversation—parts of it—which I couldn't help hearing, I gathered he was talking to a physician.

Q.—Did you gather any names from the conversation? *A.*—No, sir.

Q.—All you gathered from the conversation is that he was talking with some physician? *A.*—Yes, because he addressed him as "Doctor."

Q.—Now, did there come a time when you went to the phone? *A.*—Mr. Booth personally handed the phone to me and said, "The doctor wants to speak to you."

Q.—Did you take the phone and speak? *A.*—Yes.

Q.—Who was on the phone? *A.*—The doctor said that he was Dr. Selders.

Q.—What did he say? *A.*—He said, He wanted to know if he could come in and operate on Mr. Hardin.

Q.—What did you say to him? *A.*—I said I was sorry, as I remember it, I think I told him, Mr. Hardin had a doctor.

Q.—Who did you say the doctor was? *A.*—Dr. Bachrach.

Q.—Did you tell him where Mr. Hardin was at the time? *A.*—I don't remember.

Q.—Tell us now as best you can what was said on the telephone that evening? *A.*—Well, Dr. Selders wanted to know if he could come in to operate on Mr. Hardin and I said Dr. Bachrach was the attending physician. He told me it was his

patient. I said, "Well, I am sorry, Mr. Hardin has a doctor, and there isn't anything I can do about it." He said, "He is my patient," and as I recall now I told him—he insisted upon coming in. He wanted to come in and operate; and then I told him he didn't have courtesy privileges and I couldn't allow him to come in anyway, because the patient had a doctor, and it was my duty then to tell him that. I asked him if he wanted to speak to Dr. Bachrach, but that I couldn't allow him to come in because the patient was already booked under another doctor, and so he said to me, "You refuse to have me come in"? I said, "I am not refusing you." He said, he asked me what authority I had to bar him from the hospital. I said I had no authority but I was carrying on my duties; that I was always under the impression that when a patient was admitted under one doctor that doctor was to take care of the patient until the doctor gave another doctor permission to take them over.

Q.—How long do you think he was on the telephone? *A.*—Possibly five or ten minutes.

Q.—Now, when you asked him if he would like to talk to Dr. Bachrach, what did he say? *A.*—He ignored the question.

Q.—Did the brother-in-law ask Dr. Bachrach to come to the phone? *A.*—No, sir.

Q.—After Dr. Bachrach went upstairs for the operation did you see him again? *A.*—I did not see him again that night.

Q.—Did you receive any instructions from Mr. Hardin, Mrs. Hardin, or the brother-in-law to call Dr. Bachrach to the phone. *A.*—No, sir.

Q.—Do you know whether there was any further conversation there with Dr. Selders that night? *A.*—Dr. Selders then asked who I was: he asked my name and wanted to know in what capacity I was in Sibley.

Q.—Did you tell him? *A.*—Yes.

Q.—By the way, had you had experience in other hospitals before you came to Sibley? *A.*—Yes.

Q.—How many hospitals? *A.*—I was assistant superintendent at the Millford Hospital at Millford, Massachusetts, and also acted as the superintendent at the same hospital; and worked in the, in various hospitals; in Framingham, and Boston, Massachusetts.

Q.—Miss Realini, was there anything unusual in the regulations at Sibley requiring that only physicians who are on the staff of the hospital could come in there and treat patients?

Mr. Kelleher:—We object to that on the ground it is immaterial.

THE COURT:—I think she may answer.

By Mr. Leahy:

Q.—Was there anything unusual in the rule at Sibley Hospital in existence at that time that only members of the courtesy or regular staff of the hospital could attend patients there?

Mr. Kelleher:—Also calls for the opinion of the witness.

Mr. Leahy:—Well, she has testified she has had experience in hospitals.

THE COURT:—She may answer that as to her experience in other hospitals.

Mr. Kelleher:—Why not ask her what those rules and regulations are at those other hospitals?

THE COURT:—Well, it is a shorter cut.

The Witness:—I am sorry I haven't the question.

By Mr. Leahy:

Q.—Was there anything unusual in the rule which you spoke about that night to Dr. Selders that inasmuch as he was not on the courtesy list at Sibley Hospital that he could not come in and treat a patient? *A.*—I don't remember; all I know is he was not on the courtesy list, and therefore he could not come in.

Q.—Was that the rule in Millford, Framingham, and Boston? *A.*—Yes. If a doctor didn't have courtesy privileges he couldn't operate in any hospital that I have been in.

Q.—Did you have any further conversation then with the brother-in-law of Mr. Hardin while he was still in the hospital? *A.*—I don't remember.

Q.—Do you recall whether or not on that particular occasion you made a written report on this particular incident to your hospital? *A.*—Yes.

Q.—Will you look in there and see if it is among the papers? I am going to show you a paper dated June 20, 1938: I will ask you if you can identify that paper. *A.*—Yes, I can.

Q.—Is that the report which you made to your hospital that night? *A.*—I made it the next day.

Q.—And when you made it the next day, did you write as nearly and accurately as you could as to what occurred there between you and those in the office there that evening? *A.*—Yes.

Q.—Will you kindly look it over and see if there is anything about the incident which you have forgotten to tell the jury?

Mr. Kelleher:—Are you going to have her read from this?

Mr. Lewin:—No, it simply calls for a yes or no answer.

Mr. Leahy:—No; does that refresh your recollection in any way?

The Witness:—Yes.

By Mr. Leahy:

Q.—It does? Do you recall now, having read over your report which you made the following morning, anything either with regard to the telephone conversation you had with Dr. Selders? *A.*—I don't understand what you mean. Do you want to have me repeat the conversation?

Q.—No, having read that over, do you remember anything further that was said in the conversation with Dr. Selders? *A.*—Well, he was very persistent and I sensed that he was trying to get me to say something.

Mr. Kelleher:—Just a second. We object to this.

THE COURT:—Yes.

By Mr. Leahy:

Q.—What was his manner toward you; you say he was persistent. How was his persistency shown?

Mr. Lewin:—We object to it; it has nothing to do with it.

THE COURT:—I think she can show it by stating what was said. It is hard to describe a manner, except by stating what is said, over the telephone.

Mr. Leahy:—Maybe that is true, your Honor.

THE COURT:—The kind of phones I use.

By Mr. Leahy:

Q.—Miss Realini, had you heard the name of Dr. Selders in connection with Mr. Hardin before Hardin's brother-in-law turned the phone over to you that night? *A.*—No, sir.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Miss Realini, you knew when this Hardin case came into the Sibley Hospital that it was an acute appendicitis, didn't you? *A.*—Well, I imagine it was or they wouldn't be operating at night.

Q.—Don't the hospital records show that it was an acute appendicitis (handing records to the witness)? *A.*—Well, there is nothing to indicate that it was an acute appendicitis except that it was done at night, and naturally we don't operate unless it's an emergency.

Q.—So you knew and assumed when that case came in that it was an emergency case? *A.*—Yes, sir.

Q.—And didn't you understand the rule of your hospital to be that any physician who was licensed to practice would be permitted in the Sibley Hospital to operate in an emergency case? *A.*—No, sir. I understood that any patient that had courtesy privileges at Sibley Hospital was allowed to operate at Sibley Hospital.

Mr. Kelleher:—Would you read the answer, please?

(The answer was read by the reporter.)

The Witness:—I am sorry. I meant doctor.

(Following a pause:)

Mr. Lewin:—I am sorry, your Honor; I seem to have lost my place. Well, I can't find this point, so I shall pass on to something else.

By Mr. Lewin:

Q.—Now, after you came back from taking the patient upstairs to the admitting office Mr. Booth came in and asked if he might speak over the telephone; is that right? *A.*—I don't know what his name was, but it was Mr. Hardin's brother-in-law.

Q.—Mr. Hardin's brother-in-law. And you said that he might, and you listened to part of the conversation, didn't you? *A.*—Well, I didn't really—I couldn't help overhearing it.

Q.—Yes. You couldn't help overhearing it. And you knew he was talking to a doctor, didn't you? *A.*—Yes, sir.

Q.—And you knew that he was asking that doctor whether he could come and operate on the patient, didn't you? *A.*—No, I don't know whether he was or not.

Q.—How do you know he was talking to a doctor? *A.*—Because he addressed him as "Doctor" over the telephone.

Q.—Yes. Now, you mean to say you didn't hear him talk about this doctor, whoever he was, coming there to operate? *A.*—I don't remember.

Q.—What? *A.*—I don't remember the exact conversation.

Q.—You don't remember? *A.*—I knew he was talking to a doctor.

Q.—Yes. *A.*—But I didn't know what the conversation was; I just got parts of the conversation, because I was occupied.

Q.—Yes. And then the phone was turned over to you, and you talked to Dr. Selders? *A.*—Yes, sir.

Q.—And you knew, then, from your conversation with Dr. Selders, that Mr. Booth had asked Dr. Selders to come and operate on the patient, didn't you? A.—Well, I imagined that he did.

Q.—You imagined that he did? A.—Yes.

Q.—So then you knew at that time that the family wanted Dr. Selders to operate, didn't you? A.—Well, I imagined so. He wouldn't have called the doctor if he didn't want him.

Q.—Precisely. At the time you talked to Dr. Selders, then, you knew that the family of the sick man upstairs wanted a certain physician, and that was Dr. Selders; isn't that right? A.—Yes.

Q.—All right. Now, you had this conversation with Dr. Selders; you reached for a list, didn't you? A.—Yes, I did.

Q.—What? A.—Yes.

Q.—And this is the list you reached for, isn't it (handing an exhibit to the witness)? A.—Yes, I did.

Q.—This is the list you reached for? A.—Yes, sir.

Q.—Now, I think you told Mr. Leahy that there was nothing unusual in your procedure that night. Did you have a list like this for all the other doctors? A.—I didn't remember it at the time.

Q.—You mean when you answered Mr. Leahy's question you didn't remember this list? A.—No. I remembered it after he showed me my written statement.

Q.—Well, there was something a little unusual about the way you treated Dr. Selders, wasn't there? A.—I wouldn't say so.

Q.—Was that the ordinary practice for you to reach for a list like this? A.—Not ordinarily.

Q.—Did you have any other list like this in the office? A.—Not like that.

Q.—Wasn't this the list that President Taylor had required you to keep there for the Group Health doctors? A.—I don't know.

Q.—You don't know. Don't you know that that's a list of the Group Health doctors? A.—As I read (present tense) it, yes, and I signed it, but Dr. Taylor didn't say anything to me about it.

Q.—Dr. Taylor didn't say anything to you about it? A.—No.

Q.—Who did tell you to sign it? A.—I don't remember.

Q.—It was someone in authority at that hospital told you to sign it, didn't they? A.—Possibly.

Q.—They told you to keep it there in the admitting office? A.—I am not in charge of the admitting office.

Q.—That's all right. They told you to keep it there in the admitting office and use it when you were in charge of it? A.—They didn't tell me to keep it in there.

Q.—Now, Miss Realini— A.—It was in the admitting office.

Q.—It was in the admitting office. And you were supposed to use it, weren't you? A.—Naturally, I—where I signed my name.

Q.—Yes. Naturally you were supposed to use it. And as a matter of fact you did use it in connection with Group Health doctors? A.—I used it that night.

Q.—Yes. You knew that whenever a Group Health doctor called up and identified himself you were to reach for this list and deny him the privileges of the hospital, even in emergency cases; isn't that right? A.—No, I don't think so.

Q.—Well, now, isn't that true? What did the list mean to you? What does it say? A.—It says "Group Health Association," and just a list of the doctors.

Q.—Let the jury hear it. "Group Health Association, H. O. L. C." A.—And it—

Q.—And the list of the Group Health doctors. A.—Dr. Henry Brown, Dr. Raymond Selders, Dr. Alexander.

Q.—No. Dr. Allan Lee. A.—Oh, Allan Lee; Dr. Edmund Wells, Dr. Stephen Hulburt, and Dr. M.—

Q.—Scandiffio? A.—Scandiffio.

Q.—Yes. Did you know any of those doctors? A.—No, sir.

Q.—Did you know Dr. Scandiffio? A.—No, sir.

Q.—Hadn't he had privileges at your hospital for some time? A.—I don't remember, don't ever recall him.

Q.—You don't recall him? A.—No.

Q.—Now, then, read what was just below their names on the list: "These doctors are not to be allowed in at any time"; isn't that correct? A.—That's right.

Q.—They were your instructions, were they not? A.—Naturally, I signed my name to them.

Q.—Yes. They were the instructions to the entire admitting office, of all these people: L. Welch, Beulah Mumford, H. R. Dutton, L. A. Wood, J. Jenson, and M. M. Realini? A.—Well, Miss Welch is admittance nurse.

Q.—Yes? A.—And so is Mrs. Mumford.

Q.—Yes? A.—And Miss Dutton is Director of Student Health.

Q.—Yes? A.—And she relieves in the office.

Q.—She relieves in the office, the admitting office? A.—Yes. Miss Wood is one of the supervisors of medicine and surgery.

Q.—Yes? A.—And Miss Jenson at the time was one of the supervisors of medicine and surgery.

Q.—She relieves in the office too? A.—She has resigned since.

Q.—She has resigned. But at that time? A.—Yes, sir.

Q.—And you? A.—Yes, sir.

Q.—That covered the entire admitting office staff, didn't it? A.—Yes, sir.

Q.—So there was complete coverage there; am I right? A.—Well, there was—there's another supervisor of medicine and surgery there.

Q.—At that time? A.—Yes, sir.

Q.—But with the exception of that one, the entire admitting office was covered, and they all had those binding instructions; isn't that right, and were told to use them? A.—We were told to sign the paper.

Q.—And it was by reason of this paper that you refused to admit Dr. Selders, and told him so that night? A.—Well, first because he didn't have courtesy privileges.

Q.—Well, now, these, this—

Mr. Leahy:—Let her answer the question.

Mr. Lewin:—I think she has.

Mr. Leahy:—No, she has not.

By Mr. Lewin:

Q.—First, because he didn't have courtesy privileges. Did you look at the courtesy list at that time, or did you look at this list? A.—I looked at the courtesy list.

Q.—You looked at the courtesy list as well as this? A.—That's right.

Q.—And if he had been on the courtesy list would you have let him in notwithstanding these instructions? A.—Well, I would, yes.

Q.—You would have let him in even though you had instructions, which you were supposed to sign and follow, that he was not to be admitted in at any time? A.—Yes, if he had courtesy privileges.

Q.—Now, as a matter of fact, Miss Realini, don't you know that Dr. Scandiffio was on the courtesy list at that time? A.—I didn't know it.

Q.—Well, when you looked at the courtesy list did you find Dr. Scandiffio's name? A.—Well, I wasn't looking for Dr. Scandiffio's name.

Q.—Well, that's all right. Isn't it your testimony that Dr. Scandiffio at the time this happened, at the time this list was prepared, had courtesy staff privileges? A.—No, I don't know whether he had courtesy staff privileges.

Q.—And it is your testimony that if Dr. Selders' name had appeared on the courtesy staff privileges you would have overridden these instructions and admitted him? A.—Well, I wouldn't have consulted that.

Q.—You would not have consulted this? A.—No, after I looked.

Q.—Weren't you required to consult this in the case of all Group Health doctors, whether they had courtesy privileges or not? A.—I don't remember whether I was or not.

Q.—Do you mean to say that you got up from the telephone and left the conversation and went over and examined the entire courtesy staff list before you finally replied to Dr. Selders? A.—I don't have to get up and examine it; it's right there at the desk.

Q.—How long is the courtesy staff list at Sibley Hospital? A.—Well, it is quite long; I couldn't say offhand.

Q.—It is quite long, and you kept Dr. Selders waiting while you went down that whole list of names to find out whether he was on the courtesy staff? A.—I just went through the S's.

Q.—You just went through the S's. Is it kept in a card index? A.—Yes, sir. And they are accessible.

Q.—And you turned to the card index and ran through those cards? A.—Yes, sir.

Q.—And you did that notwithstanding this paper which settled the whole problem for you? A.—Well, I didn't think of that paper at the time.

Q.—Well, didn't you testify that you reached for this paper? A.—Yes, I did.

Q.—Isn't that the list that you reached for? A.—I reached for it after.

Q.—In the statement and report that you made to Dr. Taylor isn't this the list that you were referring to? A.—Yes.

Q.—That you said you reached for? A.—Yes, that is the list.

Q.—When you testified before the Grand Jury of the United States didn't you identify this list? A.—Yes, sir.

Q.—And tell the Grand Jury that this was the list you reached for, and it was on the basis of this list that you excluded Selders?

Mr. Leahy:—She just told you that.
Mr. Lewin:—Well, let's have it.
Mr. Kelleher:—Let's have her tell it.
Mr. Lewin:—Let's have it now.
By Mr. Lewin:
Q.—Is that right? Is that what you told the Grand Jury of the United States? *A.*—I don't remember.
Q.—You don't remember that? *A.*—No.
Q.—Well, now, after you talked with Dr. Selders that first time, Miss Realini, Mr. Booth talked to him again, didn't he, before the receiver was hung up? Or did you hang up the receiver? *A.*—I don't quite remember, but I know he talked to him a second time.
Q.—Yes. *A.*—But I think it was a separate call.
Q.—Yes. And wasn't that immediately afterward, the phone rang again? *A.*—Yes, while I was in the admitting office. I don't know how soon, but it was while I was in the admitting office.
Q.—While you were still in the admitting office? *A.*—Yes, sir.
Q.—And you would say it was a very short time elapsed before the phone rang again, and it was Selders talking to Booth again; is that right? *A.*—Yes, sir.
Q.—And then he talked to you again? *A.*—No, I don't believe the doctor talked to me again.
Q.—He didn't talk to you any more? *A.*—No, sir.
Q.—After he had the first conversation. After you overheard this second conversation you knew that Mr. Booth was talking with Dr. Selders on another conversation immediately afterward? *A.*—Pardon me.
Q.—I say, you knew that shortly after that first conversation Selders called again and talked to Booth? *A.*—Yes.
Q.—And can't you recollect that you also talked to him on a second occasion or that time? *A.*—I don't believe I did.
Q.—You don't believe you did? *A.*—No, I don't think.
Q.—Would it refresh your recollection if I called your attention to your Grand Jury testimony, do you think? Didn't you say this, in answer to the question put to you:

"Well, what happened after the conversation ended?
"Answer. Well, I think I received another call from Dr. Selders. When I picked up the receiver, he was on the line again. I think he asked me again, so I refused to let him come into the hospital."

Did you say that? *A.*—Possibly I did. I know I talked with him. Naturally I would have to get the call, and since he wanted to speak to Mr. Hardin's brother-in-law I would have to talk with him first.
Q.—Do you remember this testimony before the Grand Jury? You were asked:

"After the remarks between yourself and Dr. Selders in this second conversation, about which you have just testified, what happened next?"

And your answer:

"Well, I don't think that conversation was very long, because I believe I told Dr. Selders that the patient by this time had already been operated on"—

A.—Yes.
Q.—"or words to that effect." *A.*—I remember that.
Q.—Do you recall that now? *A.*—Yes, I do.
Q.—Now, do you remember that you didn't know whether the patient had been operated on or not? Isn't that right? *A.*—Well, I assume that the patient must have been operated on. I couldn't say definitely, but the patient must have been up in the operating room.
Q.—Yes, but you told Dr. Selders that the patient by that time had been operated on, didn't you? *A.*—I don't remember if I said that the patient had been operated on.
Q.—Well, wasn't that your testimony before the Grand Jury? Wouldn't you say this was correct: "because I believe I told Dr. Selders that the patient by this time had been operated on, or words to that effect? *A.*—I said I believed. I didn't say that the patient was. I said I believed.
Q.—Well, you didn't say that to the Grand Jury. You said "because I believe I told Dr. Selders that the patient by this time had already been operated on, or words to that effect." Didn't you tell Dr. Selders that? *A.*—Because the patient was booked for 11:45.
Q.—Well, you were trying to discourage Dr. Selders from coming to the hospital, weren't you? *A.*—I was not.
Q.—What was your purpose in telling him that the patient had already been operated on, or that you believed the patient had already been operated on? *A.*—My purpose?
Q.—Yes. Why did you tell Dr. Selders that? *A.*—Well, because the patient was being operated on.
Q.—Well, why did you tell Dr. Selders that? Wasn't it to discourage him from coming and taking the case? *A.*—No, because the patient already had a doctor, and that's where my duties end.
Q.—Well, why did you tell Dr. Selders that the patient had been operated on, or that you believed that the patient had been operated on? *A.*—I don't know why I told him.
Q.—You don't know why? *A.*—Because I believed that the patient had been operated.
Q.—Especially when that was resting solely on an assumption on your part; am I right?
THE COURT:—I think that is argumentative. I will sustain an objection to it. That is quite argumentative.
By Mr. Lewin:
Q.—Well, now, had you left the admitting office between those two calls? *A.*—No, I hadn't.
Q.—Had anybody told you that the patient had been operated on? *A.*—No.
Q.—You simply assumed that it had? *A.*—Yes.
Q.—That the patient had been? *A.*—Yes, sir.
Q.—And yet you told Dr. Selders that the patient had been operated on?
Mr. Leahy:—She said that she believed he had been.
The Witness:—I said I believed it. I said I believed.
By Mr. Lewin:
Q.—Well, you are not quite sure about that? *A.*—I said I understand that the patient had been operated on.
Q.—And you don't know why you told Dr. Selders that? *A.*—I don't.
Mr. Leahy:—She has answered: because she believed the patient was being operated on.
Mr. Lewin:—She hasn't done anything of the sort. She said she couldn't explain it.
THE COURT:—I think you have been pretty thoroughly over that, Mr. Lewin.
By Mr. Lewin:
Q.—Did you discuss with any member of the patient's family who was there the right to have Dr. Selders perform the operation? *A.*—I don't remember.
Q.—You don't remember? *A.*—No.
Q.—Don't you remember discussing it with Mr. Booth and Mrs. Hardin, and their wanting Dr. Selders? *A.*—No, I didn't discuss—I didn't discuss with Mrs. Booth, because I don't remember.
Q.—Mrs. Hardin? *A.*—Mrs. Hardin, I mean.
Q.—Was Mrs. Hardin there at some time during the conversation? *A.*—She didn't come in the admitting office.
Q.—Didn't she come in that night? *A.*—I don't know if she came in there or not, because she was upstairs afterward to see the patient.
Q.—Did she come in later? *A.*—I believe she came in with the patient, but I didn't see her.
Q.—You are clear, though— *A.*—At least, I don't remember. Possibly she was there, but I don't remember.
Q.—You do clearly remember, though, that Mr. Booth wanted Dr. Selders? *A.*—I clearly remember that Mr. Booth was in the office and wanted to use the telephone. That is very clear in my mind.
Q.—You knew he wanted to have Dr. Selders operate, didn't you? *A.*—Not before he talked—not before I talked with Dr. Selders.
Q.—Not before you talked with Dr. Selders? *A.*—No, sir.
Q.—But after that you did, didn't you? *A.*—When I talked with Dr. Selders.
Q.—Yes. *A.*—Dr. Selders told me.
Q.—Yes. Well, then you must have known that Dr. Bachrach had no authority to go ahead with the operation, didn't you? *A.*—Well, that isn't up to me. I'm the nurse. I am not a doctor.
Q.—At the time you were talking to Dr. Selders you knew that Mr. Booth didn't want Dr. Bachrach but wanted Dr. Selders; isn't that right? *A.*—Well, I knew that Mr. Booth wanted Dr. Selders, yes.
Q.—Yes. And yet you gave Dr. Selders, as one of your excuses for not letting him there, that it was Dr. Bachrach's patient? *A.*—That's right.
Q.—Which you must have known that it wasn't Dr. Bachrach's patient at that time? *A.*—The patient was admitted under Dr. Bachrach's—
Mr. Leahy (interposing):—Isn't that argumentative?
THE COURT:—Yes, Mr. Lewin.
The Witness:—The doctor—the patient was admitted under Dr. Bachrach's name.
By Mr. Lewin:
Q.—You knew that Dr. Bachrach's name was on the slip? *A.*—He didn't want—the Dr. Bachrach was booked—the operation was booked under Dr. Bachrach.

Q.—Yes. If Dr. Bachrach's name had not appeared on the admitting card, would you have admitted Dr. Selders? *A.*—Possibly I would have.

Q.—You would have? *A.*—Possibly.

Q.—Notwithstanding the list that you reached for which said that Dr. Selders was not to be allowed in at any time? *A.*—I don't know what I would have done if Dr. Bachrach's name wasn't on the admitting—wasn't booked for the operation.

Q.—Wasn't this the real reason that you refused Dr. Selders, and not the fact that Dr. Bachrach's name was on the card (indicating United States Exhibit 496)? *A.*—Primarily it was Dr. Bachrach's name, and that's why I refused him, primarily.

Q.—Weren't you asked this question before the Grand Jury:

"Is this not the reason: that when you saw this list, you knew that under no conditions could Dr. Selders be admitted to the hospital, regardless of whether the patient had another physician attending him at the time or not?"

And your answer,

"I suppose underneath it all I felt that way."

Did you give that testimony? *A.*—Well, if it's there I must have given it.

Q.—And is it correct? *A.*—I don't know whether it is or not.

Q.—What? You don't know. Did you ever see this paper or the original of it (handing to the witness United States Exhibit 491)? *A.*—No, I don't ever remember.

Q.—Don't remember that? *A.*—No, I don't ever.

Mr. Leahy:—Is that an identification of it?

Mr. Lewin:—Yes, 491.

Mr. Kelleher:—It is in evidence.

REDIRECT EXAMINATION

By Mr. Leahy:

Q.—Miss Realini, do you know whose handwriting that list is in which you were shown? And I am showing Exhibit 496. *A.*—It looks like Beulah Mumford's.

Q.—You know it is not Dr. Taylor's, don't you? *A.*—I'm positive.

Q.—And Dr. Taylor never said anything to you with reference to anything contained on that list, did he? *A.*—No, sir.

By Mr. Leahy:

Q.—Is it anything unusual, Miss Realini, from your experience in the hospitals where you have worked, for a lady at the admitting desk to deny the right to a doctor who has no courtesy or staff privileges to treat the patient in the hospital?

Mr. Lewin:—Now, I object to the question, and I think I am entitled to it.

THE COURT:—Objection overruled.

The Witness:—Well, we have a—I don't know whether I can answer that, but we do have a list of doctors; every hospital has rules, a list of doctors that can't come in and operate, and naturally we have to go by that list. We can't let anyone in.

By Mr. Leahy:

Q.—Well, supposing that doctor's name who wants to come in is not on that list. What do you do? Do you let him in or do you tell him he can't come in because he hasn't courtesy privileges? *A.*—Well, we just tell him he hasn't courtesy privileges.

Q.—Now, in your statement the next day, on June the 20th when you made your report to the hospital, did you mention the fact that you had looked on this list which was just shown you, in Mrs. Mumford's handwriting. *A.*—Yes.

Mr. Lewin:—I don't think he need lead this witness in any such fashion as that.

THE COURT:—Yes, Don't lead the witness.

By Mr. Leahy:

Q.—Now, would you kindly point to your statement which you made to your hospital, a report as to what occurred that day, when you mention that? *A.*—Right here (indicating). As I reached for the phone it occurred to me to reach for the slip.

Q.—Now, at this time when you made out the admission record in that hospital was anything said to you that Mr. Hardin was a Group Health patient? *A.*—Not at that time.

Q.—Did you know when you admitted Mr. Hardin that he was a Group Health patient? *A.*—No, sir.

Q.—Did his wife tell you anything about it? *A.*—No, sir.

Q.—Who did she say would be responsible for the bill—

Mr. Lewin (interposing):—Now, wait a minute.

Q.—When she admitted him?

Mr. Lewin:—I object to this as improper redirect.

THE COURT:—Yes.

Mr. Lewin:—There is nothing in the cross that went into this at all.

THE COURT:—It is something of another examination.

Mr. Leahy:—Oh, if you Honor please, I want to bring out that fact because of the connection which is made, as they say, with Dr. Selders.

Mr. Lewin:—Well, that hasn't anything to do with it.

THE COURT:—Well, if it is something you overlooked that you want to bring out, that is another thing.

Mr. Leahy:—Well, that is what I do, because it's on the record, and I wasn't—

THE COURT:—Wait.

Mr. Leahy:—I am sorry, your Honor.

THE COURT:—I say it is not proper redirect if you have overlooked something.

Mr. Leahy:—This I was about to introduce into evidence, the record, and also her statement at the time. If we can get it from the record it's all right. I will introduce as Exhibits 6 and 7 at this time the statement of Miss Realini, being 6, the record being 7.

(Documents were marked Defendants' Exhibits 6 and 7 for identification.)

Mr. Leahy:—This has already been introduced in evidence (indicating).

Mr. Lewin:—It certainly has. These I have seen, and I object to it.

Mr. Leahy:—Shall I pass them to your Honor?

(Exhibits were passed to the Court.)

Mr. Lewin:—If you Honor is tempted to admit that, I wish you would hear me at the bench, because I don't see any possible theory of admissibility.

THE COURT:—Are you through with the witness, Mr. Leahy?

Mr. Leahy:—I think so, if your Honor please.

THE COURT:—Very well. The witness may be excused, and I will excuse the jury for a few minutes.

(There was a brief informal recess, at the conclusion of which the proceedings were resumed as follows, in the absence of the jury.)

THE COURT:—Will you gentlemen step up here now?

(Counsel for both sides approached the bench. The discussion concerned rules of the Court on admissibility of evidence.)

Mr. Leahy:—If your Honor please, I will take a moment to read to the jury the paper which Miss Realini said she filled out in her own handwriting when Mr. Charles Hardin came to the hospital.

I will not read it all to you:

DEFENDANTS' EXHIBIT 7

"In case of emergency call Mrs. Helen Hardin.
"Physician. Dr. Bachrach, Surg.
"Nature of the case.
"Responsibility for the account. Charles G. Hardin Jr.
"Relationship to the patient. Wife."
Giving the address as 215 North Piedmont Street, Arlington, Virginia, the telephone number, or 1419 E Street N.W., and the telephone number there; with Miss Realini's name on the back.

TESTIMONY OF DR. LEE SOLET

DIRECT EXAMINATION

By Mr. Leahy:

Lee Solet said his office is in Arlington, Virginia, and has been for a little over three years. He graduated from Middlesex College of Medicine and Surgery, in Boston, in 1933; took internship at Unity Hospital in Brooklyn, New York, and a residency at Women's and Children's Hospital, Toledo, Ohio.

Q.—Are you acquainted with Mr. Charles Hardin? *A.*—Yes, sir.

Q.—How long have you known him? *A.*—I have known him from the day that I went to visit him. He called me.

Q.—Do you recall that date now? *A.*—It was June 19, 1938.

Q.—Do you recall how you came to see him that evening? *A.*—I got a call about quarter to 10, and I went over to see him at that time.

Q.—Who was there when you saw him? *A.*—Just his wife and himself.

Q.—What was his condition when you saw him? *A.*—He looked quite well, except for the fact that he complained of having had a pain the day before, and he had had a pain that day and he was a little disturbed about that, although he said he felt quite well. On examination he did not have any temperature and he did not have any nausea or vomiting. He had a pain right over the right side of his abdomen, and it looked suspicious. I said, "You might have a possible appendix. I think the best thing to do is to call someone in to verify that." I asked him if he had any particular physician, and he said, No; you are the doctor." So I called in a doctor from Washington.

Q.—What was his name? *A.*—Dr. Bachrach.

Q.—Had you known Dr. Bachrach? *A.*—Yes, sir.

Q.—Did he have any specialty? *A.*—He is a surgeon.

Q.—Did you call Dr. Bachrach? *A.*—Yes, sir.

Q.—Did Dr. Bachrach come over? *A.*—Yes, sir.

Q.—And do you recall now where Mr. Hardin was living at that time? *A.*—At 215 North Piedmont Street—I think that is right—Arlington, Virginia.

Q.—Do you recall now about what time Dr. Bachrach got to Mr. Hardin's home? *A.*—Well, approximately 10:35 or 10:40.

Q.—When he got to the home were you still there waiting? *A.*—Yes, sir.

Q.—What occurred? *A.*—He asked the patient a number of questions, and then he proceeded to examine the patient, and then he was of the opinion that he had appendicitis.

Q.—Then what occurred? *A.*—He suggested that he go to the hospital, and then we called up Sibley Hospital to make arrangements for his admittance.

Q.—Who called Sibley? *A.*—I don't recall whether it was myself or Dr. Bachrach.

Q.—As a result of that telephone conversation were arrangements made to operate on Mr. Hardin? *A.*—Yes, sir.

Q.—Did you go to Sibley that night? *A.*—Yes, sir.

Q.—With whom did you go? *A.*—Mr. and Mrs. Hardin, in my car. Dr. Bachrach followed.

Q.—He followed you? *A.*—Yes, because he was not acquainted with Arlington. He lived in Washington, and it had taken approximately 25 or 30 minutes to come from the time I called him.

Q.—He followed you in your car? *A.*—He followed in his own car, while I had the patient and his wife in my car; and we arrived at Sibley approximately the same time.

Q.—Do you recall about what time it was that you arrived at Sibley? *A.*—Possibly 11:15 or 11:20.

Q.—What occurred when you arrived at Sibley? *A.*—When we arrived at Sibley Mrs. Hardin—I think Mrs. Hardin's brother—I had never met him before—was there, and Mrs. Hardin and the brother went into the admitting office to make arrangements for admission, while I remained outside. The patient was on the wheel chair and I was talking to him.

Q.—Are you familiar with Sibley Hospital and its rules and regulations? *A.*—To a certain extent; as far as I am concerned.

Q.—Are you able to recognize records of Sibley Hospital? *A.*—Yes, sir.

Q.—Do you know whether Sibley Hospital maintained an admission record, as it is called? *A.*—Yes, sir.

Q.—I now show you what has been identified and received as Defendant's Exhibit No. 7 and ask you whether or not you can identify that record? *A.*—Yes, sir.

Q.—That is the usual admission record which is filled out when a patient comes in to Sibley? *A.*—Yes, sir.

Q.—While that record was being filled out what did you and Dr. Bachrach and Mrs. Hardin do? *A.*—Mr. Hardin—I was just speaking with Mr. Hardin, and Dr. Bachrach was speaking with him for a while. When he moved toward the admitting room I am not sure whether he went in with the patient's wife and brother or not; but I did not go into the admitting room at all.

Q.—How long were they in the admitting room at that time? *A.*—Oh, about ten minutes, I should say.

Q.—Do you recall whether Mr. Hardin went into the admitting room or not? *A.*—No.

Q.—Did there come a time when Mr. Hardin was assigned to a room? *A.*—Yes.

Q.—Did you go up there with him? *A.*—I let him go to the room and I went up to the operating room with Dr. Bachrach while he prepared for the operation.

Q.—Do you recall how long it was after Mr. Hardin got to the hospital that the operation was performed? *A.*—Approximately 12:25 a. m.

Q.—Is there a time required to prepare a patient for an operation? *A.*—Yes.

Q.—And also, do you doctors have to prepare yourselves for an operation? *A.*—Yes, sir.

Q.—From the time that you went upstairs—I assume you went into the operating room, Doctor? *A.*—I watched; I did not assist. I observed the operation. The resident and the interns of the hospital get the advantage of assisting the surgeon. But I just observed.

Q.—From the time that you went upstairs until the operation was performed what were you doing? *A.*—Just in the doctor's dressing room while Dr. Bachrach was changing from his clothes and while I put a gown on and went out to scrub up.

Q.—Did there come a time when Dr. Bachrach—

Mr. Lewin:—Do not let us have any leading questions, please. All the answers have been practically yes or no to your own statements.

THE COURT:—Do not lead.

By Mr. Leahy:

Q.—Did there come a time when anything occurred, so far as Dr. Bachrach was concerned?

Mr. Lewin:—Objected as leading.

Mr. Leahy:—I could not make it less leading.

THE COURT:—I think the question is all right.

The Witness:—May I have the question again?

By Mr. Leahy:

Q.—Did there come a time when anything occurred in so far as Dr. Bachrach was concerned? *A.*—No, sir. He just operated on the patient.

Q.—Did there come a time when anything occurred so far as you were concerned?

Mr. Lewin:—Objected to as immaterial.

THE COURT:—I do not know what he has in mind. Objection overruled.

A.—Well, Dr. Bachrach operated on the patient and I saw the patient after that until the patient left the hospital, about five days later. He had a gangrenous appendix.

By Mr. Leahy:

Q.—And it was removed? *A.*—Yes.

Q.—Did you hear at any time that night the name of Dr. Selders? *A.*—Yes, sir.

Q.—When was the first time you heard that name—Dr. Selders? *A.*—At the hospital.

Q.—What time after you had gotten to the hospital did you first hear it? *A.*—I heard it after Mrs. Hardin and her brother came out of the admitting room.

Q.—Do you recall who it was that spoke to you, if anybody? *A.*—No, because I didn't speak with anyone. I just happened to hear that conversation—heard the mention of the name. But I didn't speak with any one regarding Dr. Selders.

Q.—Do you recall whether the name of Dr. Selders had been suggested at any time prior to your coming to the hospital? *A.*—No, sir.

Q.—Had the name Group Health Association been mentioned before you got to the hospital? *A.*—No, sir.

Q.—What occurred with reference to suggestions of surgeons or doctors when you were at the home of Mr. Hardin? *A.*—I asked Mr. Hardin who he preferred—I asked him which surgeon he preferred, and he said, "You are the doctor." So immediately I called Dr. Bachrach.

Q.—Do you recall who it was that was doing the talking at Sibley Hospital about Dr. Selders when you first heard the name? *A.*—No, sir; I do not.

Mr. Leahy:—I think that is all.

CROSS EXAMINATION

By Mr. Kellcher:

Q.—Dr. Solet, you do not want this jury to believe, do you, from your testimony that Mr. Hardin was not a sick man when you saw him? *A.*—Yes; he was sick.

Q.—Seriously, was he not? *A.*—Well, as it turned out to be, he had a gangrenous appendix.

Q.—That is a pretty serious matter, is it not? *A.*—Yes; it is.

Q.—Did not Dr. Bachrach diagnose it as acute appendicitis? *A.*—Yes, sir.

Q.—He did? *A.*—Yes, sir.

Q.—In your presence? *A.*—Yes, sir.

Q.—Was it not necessary, in your opinion and in Dr. Bachrach's opinion, that the patient be operated on that night? *A.*—Yes.

Q.—And is it customary except in acute cases to operate at night? *A.*—Is it customary? I beg your pardon.

Q.—Is it customary except in acute emergency appendicitis cases to operate at night? *A.*—The operation takes place when the patient decides to go to the hospital.

Q.—You mean that the patient decided to have the operation that night? *A.*—He said, "Well, let's go."

Q.—Who recommended that he be operated on that night? *A.*—Dr. Bachrach.

Q.—He did? *A.*—Yes.

Q.—Is it customary for a doctor to recommend an operation late at night unless the case is a serious case? *A.*—Any case that warrants it, they operate on it.

Q.—Did this case warrant it? *A.*—Yes, sir.

Q.—In your opinion and in Dr. Bachrach's opinion? *A.*—Dr. Bachrach verified the tentative diagnosis that I made.

Q.—You also diagnosed it as acute appendicitis? *A.*—I thought it was a possible appendix, but I was not sure, because he seemed perfectly all right as far as temperature was concerned, and there were not outward symptoms, and he had continued his regular activities.

Q.—Did you diagnose it as acute? *A.*—No.

Q.—But Dr. Bachrach did? *A.*—Yes; he diagnosed it as acute appendicitis.

Q.—What did you do, so far as the patient was concerned, at Sibley Hospital? *A.*—The following day I saw the patient. I saw him every day and removed the sutures when the wound was healed.

Q.—Do you have privileges at Sibley Hospital? *A.*—Yes, sir.

Q.—When were those privileges granted? *A.*—In 1938.

Q.—I show you Exhibit 492 which has been identified as a list of doctors having courtesy privileges at Sibley Memorial Hospital, and ask you if your name appears on that list. It is arranged alphabetically. Just look under the S's and tell us that. *A.*—Yes, sir.

Q.—When were those privileges granted? *A.*—In 1938.

Q.—How long did you say you had been in practice in Alexandria, Doctor? *A.*—In Arlington.

Q.—In Arlington? *A.*—Yes.

Q.—How long? *A.*—A little over three years.

Q.—As I understand it, this Hardin case occurred in June of 1938? *A.*—Yes, sir.

Q.—How long before that had you been in practice? *A.*—Approximately six months, or five months.

Q.—Do you know how it happened that Mrs. Hardin called you? *A.*—No, sir.

Q.—You do not know? *A.*—Yes, sir.

Q.—You never discussed that with her? *A.*—No, sir.

By Mr. Kelleher:

Q.—Did you know any of the family before? *A.*—No, sir.

Q.—Did you ever treat any member of the family since? *A.*—No, sir.

Q.—Were not the arrangements for a surgeon made with Mrs. Hardin instead of Mr. Hardin? *A.*—No, sir.

Q.—Don't you recall that Mrs. Hardin requested you to name certain surgeons and that you named Dr. Cox, Dr. Cafritz and Dr. Bachrach? *A.*—I named several doctors, but she didn't request me to name them.

Q.—You volunteered the names of several doctors? *A.*—Yes.

Q.—Why did you volunteer them? *A.*—So she would have her own choice.

Q.—Don't you recall that she said, "I don't know any surgeons in Washington"? *A.*—I can't be sure of that.

Q.—What is your best recollection? *A.*—It might have been possible.

Q.—But you suggested Dr. Bachrach? *A.*—After Mr. Hardin mentioned the fact, "You are the doctor."

Q.—What did you do after he mentioned the fact, "You are the doctor"? *A.*—I called Dr. Bachrach.

Q.—Did you suggest Dr. Bachrach to the patient, too? *A.*—After mentioning several other doctors.

Q.—Who selected Dr. Bachrach out of the list? *A.*—I selected Dr. Bachrach.

Q.—You did. I want you to think very carefully and tell us whether at some time during the course of that evening either Mrs. Hardin or Mr. Hardin told you that she was a member of G. H. A. and that Mr. Hardin was entitled to privileges in that organization. *A.*—No, sir; I can't recall.

Q.—Do you deny that she said that? *A.*—Yes, sir.

Q.—On your oath you deny that?

Mr. Leahy:—Yes; he is under oath. What do you mean by that?

THE COURT:—Please, Mr. Kelleher—that is a question that I do not permit to be used in this court.

Mr. Kelleher:—I am sorry, your Honor. I certainly intended no offense by it.

By Mr. Kelleher:

Q.—Will you tell us whether you did not state to either Mr. Hardin or Mrs. Hardin at that time that G. H. A. doctors were not entitled to operate in the local hospitals? *A.*—No, sir. The question didn't come up in that case.

Q.—Did you mention G. H. A. in the presence of Dr. Bachrach? No, sir.

Q.—Did you discuss it with Dr. Bachrach? *A.*—No, sir.

Q.—Is it your testimony now that no mention was made of G. H. A. at the house? *A.*—Not at the house.

Q.—Did you hear Mrs. Hardin call her brother? *A.*—I don't recall her calling, but I know the brother was at the hospital.

Q.—Don't you recall that she telephoned from the house? *A.*—She must have telephoned from the house.

Q.—Don't you recall that she did? *A.*—No; I don't recall that.

Q.—Did you have any discussion with Mrs. Hardin? *A.*—About what?

Q.—At all, at the house? *A.*—Yes; in reference to his case.

Q.—Did you help take the patient out to the car? *A.*—Yes, sir.

Q.—Did she go with you? *A.*—Yes, sir.

Q.—Do you recall where the telephone was in the house? *A.*—It was on one side of the room.

Q.—Of the bedroom? *A.*—Yes, I believe.

Q.—Where the patient was? *A.*—Yes. The patient was in the bedroom.

Q.—Don't you recall that she made a telephone call—

THE COURT:—You have asked that question twice before.

Mr. Kelleher:—I know, your Honor; but I am trying to help the witness out on the matter to refresh his recollection on it. I think I am entitled to probe this man's knowledge of what occurred.

THE COURT:—I think you have done it. The court has to exercise some discretion about the limits of cross examination.

Mr. Kelleher:—Yes, I understand, your Honor.

THE COURT:—He has stated that there was a telephone in the house. There is no issue about that.

Mr. Kelleher:—There is an issue about whether he heard her call.

THE COURT:—He has denied it twice. You have asked him that. He does not deny that he was called, but he says he does not recall hearing it. That is the substance of his testimony.

Mr. Kelleher:—All right, your Honor.

By Mr. Kelleher:

Q.—When you went up to the operating room with Dr. Bachrach did Mr. Booth come up there about 45 minutes after the patient was admitted to the hospital and talk with you or Dr. Bachrach? *A.*—Who is Mr. Booth?

Q.—The brother-in-law? *A.*—No. He never spoke with me.

Q.—Did he speak with Dr. Bachrach in your presence? *A.*—Not that I recall.

Q.—Do you recall whether he told you or Dr. Bachrach that Dr. Selders would not be permitted to come in, and that therefore Dr. Bachrach might go ahead with the operation? *A.*—Whether I heard him say that?

Q.—Yes. A.—I didn't hear him say that, but I heard a reference to Dr. Selders, in the admitting room—in the lobby of the admitting room where the patient was. I mean, when Mrs Hardin and Mr. Booth—I think Dr. Bachrach was around there. That is the only mention I heard of Dr. Selders at that time.

Q.—What was said in your presence at that time concerning Dr. Selders? *A.*—I didn't hear any conversation in reference to the fact that Dr. Selders was not—that is, the conversation itself; I just heard this mentioned between Mrs. Hardin, Mr. Booth and Dr. Bachrach. I didn't enter into any discussion or anything like that.

Q.—I am asking you what that conversation was concerning Dr. Selders? *A.*—In reference to the fact that he didn't have privileges.

Q.—Tell us what was said. What did you overhear? *A.*—All I heard was that Dr. Bachrach was competent and to go on with the operation.

Q.—And that Dr. Selders could not operate? *A.*—Whether he could operate or not—that I don't recall.

Q.—What did you hear about Dr. Selders? *A.*—I heard Dr. Selders's name mentioned.

Q.—How was it mentioned? *A.*—The fact that Dr. Selders could not operate at the hospital.

Q.—And that was in your presence and in Dr. Bachrach's presence? *A.*—Yes. It was in my presence, if you consider the fact that I was close by and could hear it.

Q.—And it was in Dr. Bachrach's presence? *A.*—Yes.

Q.—And it was said by Mrs. Hardin or Mr. Booth? *A.*—I don't know who said it.

Q.—Was anybody else in the conversation besides you, Dr. Bachrach, Mrs. Hardin and Booth? *A.*—I was not in the conversation.

Q.—Who was in the conversation? *A.*—The conversation was between Mrs. Hardin, Mr. Booth and Dr. Bachrach. I was with the patient in the lobby by the elevator.

Q.—Did you hear either Booth or Mrs. Hardin tell Dr. Bachrach what you have already testified to? *A.*—Yes.

Q.—Are you a member of the American Medical Association? *A.*—Yes, sir.

TESTIMONY OF ISABELLE M. KANFOUSH

DIRECT EXAMINATION

By Mr. Leahy:

Isabelle M. Kanfoush said she is employed at Walter Reed General Hospital. This is the beginning of the third month. She was employed at Emergency Hospital from January 1938 until June 1939 as a general duty nurse.

Mr. Lewin:—Would you mind asking what that is?

Mr. Leahy:—I am going to ask her.

By Mr. Leahy:

Q.—Will you tell us, please, what a general duty nurse does, what her duties are? *A.*—It depends in what part of the hospital you are assigned. It is usually bedside nursing. I did that for about two months, but I worked in the emergency room after that. That just deals with emergencies that come in from outside.

Q.—What do you mean by emergencies that come in from outside? *A.*—Anything such as accidents or acute abdominal cases or anything of that kind.

Q.—When you were assigned to the emergency room what were your duties there? *A.*—Well, there were quite a few of them, but the chief duties of an emergency nurse are to take care of patients coming in from the outside that have been in automobile accidents or that have been cut or injured in any way.

The witness identified the record in the case of Harriet A. Austin.

Q.—Do you recall Mrs. Austin's coming into the emergency room that day? *A.*—Yes; I do, very definitely.

. . . . . .

Q.—I notice at the top of the card the word, in printing, "Ambulance." What does that mean? *A.*—That the patient was brought in by the Emergency Hospital ambulance. This (indicating) is the ambulance record right there.

Q.—Does the emergency record indicate what time the patient came in? *A.*—Yes.

Q.—What time did she come in? *A.*—5:28 p. m.

Q.—Does it indicate the time when there was received at Emergency Hospital a call for the ambulance? *A.*—Yes.

Q.—What time was that? *A.*—5:19 p. m.

Q.—Does it also indicate where the patient was received? *A.*—You mean, from where?

Q.—Yes; from where. *A.*—Yes; we got the call from Peoples Drug Store, 11th and Pennsylvania Avenue.

Q.—It is marked, against the word "by," in printing, your name. What does that mean? *A.*—That I took the ambulance call.

Q.—In other words, at 19 minutes past 5 o'clock on the evening of Sept. 7, 1938 you took an ambulance call on a telephone message from Peoples Drug Store? *A.*—That is right.

Q.—Did you answer it at that same time? *A.*—Immediately.

Q.—Now, I find the name of a doctor, and I will have to ask you to pronounce it for me. *A.*—Mackowiak—M-a-c-k-o-w-i-a-k.

Q.—What does that indicate? *A.*—It means that that was the doctor that went out on the ambulance call.

Q.—And the driver I presume is the driver of the ambulance; is that right? *A.*—Yes—Curtis.

Q.—The time it returned—does that mean the time the ambulance returned? *A.*—Yes.

Q.—That was 5:38? *A.*—5:28.

Q.—And will you explain what is meant by "Disposition of the case"? *A.*—Disposition of the case. The patient was brought in. Usually when the ambulance goes out on a call we like to tell how the patient was taken care of, whether at the scene, assisted, or brought in. In this case the patient was brought in; and that is the disposition.

. . . . . .

Q.—From whom did you get the information contained on the card. *A.*—I got the information from the patient herself.

Q.—For instance, did you get her name? *A.*—Yes.

Q.—Harriet A. Austin? *A.*—Yes. She gave it to me.

Q.—Did she give you her address? *A.*—Yes.

Q.—1543 44th Street Northwest? *A.*—Yes; that is right.

Q.—It says "Brought in," and then there is certain writing under that. What is that? *A.*—"E. H. Ambulance."

Q.—And the date and the time and the doctors. Following that line over, there are several names—Mackowiak, Gerber and Fry. *A.*—Dr. Mackowiak was the one who brought the patient in, and Dr. Gerber and Dr. Fry were the two on consultations. Both were residents at the time.

Q.—Did you know them personally? *A.*—I knew them professionally, not personally.

Q.—You were present, were you, in the emergency room when Mrs. Austin was brought in to the emergency room? *A.*—Yes; I was.

Q.—Does that card indicate anything with reference to what was done for the patient?

Mr. Lewin:—Just answer that yes or no, please.

A.—Yes.

By Mr. Leahy:

Q.—What was done for Mrs. Austin? *A.*—Well, she had no external injuries that were—

Mr. Lewin:—I object to that as not responsive.

Mr. Leahy:—Maybe that is true, too.

By Mr. Leahy:

Q.—What was Mrs. Austin's condition when she was brought in to the hospital? *A.*—The general condition was good.

Q.—What was there on her which showed cuts or bruises? *A.*—We saw no cuts or bruises except on the hip, the right hip; and she had a bruise on the right elbow. That is the only thing we saw.

Q.—What was the condition of her clothing? Was it torn or disheveled? *A.*—I am sorry, but I can't remember; it is too far back.

Q.—Can you tell us whether anything was done for her when she was brought in? *A.*—Yes. She was undressed and examined thoroughly from head to foot and was given a medication known as 2-2-10.

Q.—Now, will you explain that? *A.*—Two drams of bisodol, 2 drams of lactopepsin and 10 minims of tincture of belladonna.

Q.—When she was brought into the emergency room was she taken to any bed or anything of that sort? *A.*—The emergency room is a compartment of rather a large room where we have beds, and there is a rest room. We put the patients into this rest room before we admit them to any other part of the hospital, for complete examination.

Q.—Do you recall whether or not Mrs. Austin was admitted in that fashion? *A.*—Yes; she was. She was taken to the rest room, undressed, and put to bed.

Q.—Do you recall now a lady coming into the emergency room at any time and the name of Dr. Selders being mentioned by anybody? *A.*—I recall somebody being in the emergency room, but I can't remember whether it was a daughter or sister or who it was. I can remember her talking of a doctor, but I don't recall the doctor's name.

Q.—Were you there when the request was made for a doctor for Mrs. Austin? *A.*—Yes; I was.

Q.—Did you personally have a conversation with that person, whoever she may have been? *A.*—I did.

Q.—Will you tell us what it was?

Mr. Lewin:—Objected to.

THE COURT:—Objection overruled. I suppose you refer to the daughter of this lady who testified?

Mr. Leahy:—Yes, your Honor.

THE COURT:—She went very thoroughly into the incident.

Mr. Lewin:—She did not go into a lot of hearsay talk, because your Honor did not permit it.

THE COURT:—She went into what she said to everybody in the hospital, and she repeated it several times.

Mr. Lewin:—No, your Honor; I beg your pardon. She told about what she said to McKeever and to the intern but not to any nurse. If your Honor permits this, you are permitting hearsay testimony from a person who is not a party to this case; and you have said time and time again—

THE COURT:—Please be a little more careful how you argue.

Mr. Lewin:—I meant the utmost respect to your Honor, but I meant to be extremely emphatic.

THE COURT:—Perhaps so; but your attitude does not indicate it.

Mr. Lewin:—I am sorry if it does not, because I have no desire—

THE COURT:—I am very sorry too. I hope that it does not occur again.

Mr. Lewin:—I think that I am entitled, as a representative of the United States—

THE COURT:—I don't want to hear that. Just a minute. You have no more rights as a representative of the United States than any other attorney here.

Mr. Lewin:—I do not claim any more rights.

THE COURT:—And I do not want that argued to me. All I say is that when you present your objections or argument you do it without an attitude of reproaching me for what I may have done in the past. I have ruled as I thought I should.

Mr. Lewin:—I am sure you have, your Honor; but I thought there was no rule that forbade my calling your Honor's attention to a previous ruling.

THE COURT:—Not at all; but it depends on the way you do it.

Mr. Lewin:—I did not mean to call it to your attention in any discourteous way at all. I assure you of that.

THE COURT:—If I am mistaken about this I want to be corrected; but my recollection of the lady's testimony is that she went in great detail into all that she did and said there.

Whether it specifically applied to any conversation with this lady or not I do not know.

Mr. Lewin:—Your Honor, I am sure that there is nothing in the record that speaks about any conversation with this lady.

By Mr. Leahy:

Q.—Were you present when this lady talked with the interns and the doctors you said were there? *A.*—The doctor was examining the patient.

Q.—Was the lady present at that time who asked for the doctor? *A.*—Yes; she was.

Q.—And you overheard the conversation between the doctor and the lady? *A.*—I didn't hear her asking for a doctor, but she did personally ask me if she could have a certain doctor for her mother, or to take care of her mother, or sister; I don't remember which it was.

Mr. Lewin:—I move that that be stricken out.

Mr. Leahy:—We offer that for this reason, your Honor. The lady in her testimony talked, as she said, with McKeever; she talked with the intern, and so forth, and left the impression that nothing was done for her mother at Emergency Hospital, and that when she asked for this doctor they would not permit Dr. Selders to come in. Now, if she asked anybody in responsibility for permission for Dr. Selders to come in there, I have a right, on the same theory and on the same rule on which your Honor permitted interns' conversation to be testified to, because an intern was in the same official position. Here is a nurse who represented Emergency Hospital with reference to the mother in that room at that time, and if this lady had a right to bring Dr. Selders in there, we have a right to know it, and not to have the jury left with the impression that this lady refused or anybody refused a doctor for her that night.

THE COURT:—I am inclined to think that that is so. The testimony of the Government tended to show that the hospital's attitude was of a certain kind—I do not care to describe it or characterize it. That was certainly the purpose of the testimony revolving around that incident, as to the attitude of the hospital itself, and it was brought out as to the attitude of those with whom the lady came in contact. I will permit it.

Mr. Lewin:—Will your Honor hear me a moment?

THE COURT:—Yes.

Mr. Lewin:—I suggest that the hearsay rule has some application. Admissions from the hospitals, once your Honor has determined that they are co-conspirators, which was your Honor's ruling, of course come in against all the defendants. Statements from Mrs. Avery, however, do not come in against all parties or against the Government or anybody else. She has certainly not been tied up with any activities of the defendants. This witness is being asked for what Mrs. Avery said.

THE COURT:—What was the purpose of the testimony?

Mr. Lewin:—The purpose of this testimony is to get some hearsay statement in—

THE COURT:—I mean, the purpose of your testimony.

Mr. Lewin:—As to the facts and as to the statements of the hospital.

THE COURT:—What facts?

Mr. Lewin:—The things that transpired there that night in regard to Mrs. Austin.

THE COURT:—For what purpose?

Mr. Lewin:—To have the jury understand what the facts were.

THE COURT:—For what purpose? For the purpose of showing that the hospital refused treatment to this woman because she was a G. H. A. patient; was it not?

Mr. Lewin:—No; it was for the purpose of showing that the hospital forbade this woman to have her own doctor, Dr. Selders.

THE COURT:—I understand it includes that, the two combined.

Mr. Lewin:—No; not the two combined; simply that.

THE COURT:—It revolves around the fact that she was a G. H. A. member and entitled to this privilege, and called a G. H. A. physician, who was refused by the hospital. Is not that true?

Mr. Lewin:—It revolves around the fact that she called Selders and could not have Selders because he was a G. H. A. doctor. That is perfectly clear. Mrs. Avery is not a party to the cause nor any co-conspirator or anything of that sort. Her hearsay statements to this witness certainly cannot come into this case whatever the subject matter might be.

THE COURT:—I do not get that at all. If you can offer Mrs. Avery's statement to various agents and officers of the hospital concerning this incident in order to prove a certain attitude on the part of the hospital, certainly the defendants have a right to reveal all the circumstances that would indicate the attitude or the acts of the hospital with reference to that episode.

I rule that it is admissible.

By Mr. Leahy:

Q.—Miss Kanfoush, will you kindly tell us, then, what the lady said with reference to wanting Dr. Selders to see her mother, and what you said about it? *A.*—The lady asked me if she could have Dr. Selders come in to see her mother, and I told her that Dr. Selders was not on the courtesy list of the hospital, but that we would call him and have him come in to the hospital and talk to her and the patient and see if they could arrange between them to have one of the staff men take care of the patient. But the patient herself refused to have us call Dr. — whoever he was; I can't remember—refused to have us call him, and, as a result, decided that she was going to go somewhere else.

Q.—It was the patient who made that statement? *A.*—Yes; the patient herself refused to have us call the doctor.

Q.—At that time were arrangements made for her to be removed from the hospital? *A.*—She wanted to leave the hospital. She asked to leave, but the rule of the hospital is that no patient who we think should stay in the hospital is permitted to leave unless he or she sign a release; and that is what we asked her to do. She signed a release.

Q.—Did she sign it? *A.*—Yes; she did.

Q.—And you recognize that as her signature (indicating)? *A.*—Yes; I do.

Q.—There is another name there—Dr. J. H. Harris. Do you know who he is? *A.*—Dr. Harris was the intern in the emergency room.

Q.—Do you know where he is now? *A.*—No; I do not.

Q.—I will ask you, Miss Kanfoush, if everything was done for Mrs. Austin in the emergency room that night that could be done under the circumstances? *A.*—Yes; everything was done.

Mr. Leahy:—We offer in evidence Defendants' Exhibit 4, which is the emergency card; that is, the card which is made out in Emergency ambulance cases and also the release attached thereto.

Mr. Lewin:—We have no objection.

THE COURT:—It will be admitted.

By Mr. Leahy:

Q.—Were you there when she left the hospital? *A.*—Yes; I was.

Q.—How did she go out? *A.*—She walked out.

DEFENDANTS' EXHIBIT 4

Mr. Leahy:—I will just read to you this card relating to Harriet A. Austin:

"Call received 5:15 p. m. By Kanfoush. How received: Peoples Drug Store.
"Call answered 5:19 p. m. By Dr. Mackowiak. Driver Curtis.
"Time returned 5:28 p. m. Disposition of case: Bro. in.
"Name Harriet A. Austin. Address 1543 44th St. N.W.
"Brought in E. H. Amb. Date 9-7-38. Time 5:28 p. m.
"Dr. Mackowiak-Gerber-Fry. Nurse I. Kanfoush.
"Diagnosis, Pos. fract. lt. hip.
"Disposition of case. Refused hospit. Signed release.
"Remarks: Pt. states a few min. ago at 11th and Pa. Ave N.W. she was crossing the street & was hit by a car driven by unknown party. Injury to left hip and right elbow."

The treatment is that "2-2-10." I will not try to repeat it because I cannot.

By Mr. Leahy:

Q.—Would you tell us what this "P. N." on the bottom is? *A.*—Yes. In all accident cases we notify the police. It just so happened that this case was in the First Precinct. That means Police Notified.

Mr. Leahy:—Attached to the card is a signed release which she signed when she left the hospital Sept. 17, 1938. It reads as follows:

"In leaving the Emergency Hospital against the advice of Dr. J. H. Harris I assume all responsibility for the results that may follow.

"Mrs. H. A. Austin.

"Witnessed:
"J. H. Harris
"Isabelle M. Kanfoush, R.N."

By Mr. Leahy:

Q.—"R. N." means Registered Nurse? *A.*—Yes, sir.

MARCH 7—AFTERNOON

TESTIMONY OF THOMAS J. DUGAN JR.

DIRECT EXAMINATION

By Mr. Leahy:

Dr. Thomas J. Dugan Jr., Laurel, Maryland, said he had been employed at the District Training School as physician since the 15th of June. He graduated from George Washington University School of Medicine, 1936.

Q.—Did you intern in any hospital in Washington? *A.*—I did, at Emergency.

Q.—Did you take a residency anywhere? *A.*—I took an assistant residency at Garfield in surgery, and a residency in surgery at Garfield the following year.

Q.—What year were you in Emergency? *A.*—I began July 1, 1936 and completed my internship June 30, 1937.

Q.—And your assistant residency at Garfield began when? *A.*—July 1, 1937 and completed June 30, 1938.

Q.—Then, did you follow the assistant with a full residency? *A.*—I did; I followed from July 1, 1938 to June 30, 1939.

Q.—Will you tell us what duties you performed there as assistant resident at Garfield? *A.*—As assistant resident in surgery, primarily my duty was to assist the resident in surgery, helping with operations; on nights the resident was off, or my time he might be off, I was the resident in charge.

Q.—Was there any difference between the duties you were called upon to perform as an assistant from those you were called upon to perform as a resident? *A.*—Yes, somewhat, in that there were more responsibilities as resident. You have to do more work as resident. There are more cases you are allowed to operate on under the supervision of the staff doctors.

Q.—Did you have any hours of duty as assistant resident at Garfield? *A.*—Not specific, except there were twenty-four hours, and we managed generally to be off every other night from 7 until 7 the next morning.

Q.—And while you were a full resident at Garfield did you observe the same hours? *A.*—Practically the same.

Q.—At Emergency as an intern what were your hours? *A.*—I would say they were fully that much; the same. We had practically every other night off.

THE COURT:—What is the materialty of that?

Mr. Leahy:—It may come in on something I wish to ask about in connection with Emergency.

By Mr. Leahy:

Q.—Now, were you at Garfield at any time, or a particular time when Miss Elizabeth Tew arrived at Garfield? *A.*—I was.

Q.—Do you recall the incident now of her coming into the hospital, Doctor? *A.*—Yes, I believe I do.

Q.—Do you recall the date now independently? *A.*—No, I don't believe I do remember the date. I did write a report the night the incident happened, or the day following—it was one of the two. I couldn't be absolutely certain. On that report the date will be given.

Q.—Was it any part of the rules and regulations at Garfield to make a report such as you refer to? *A.*—I don't believe I ever saw it in writing as a rule or regulation, but it was certainly understood that in case anything unusual happened that we would make a report to the superintendent. Several times I have been asked to write a report about something that happened in the hospital while I was on duty.

Q.—And in what file would that report be made? *A.*—It would be made to the superintendent. Now, where that would be filed, I wouldn't know.

Q.—I will ask you if you can identify a paper which I hand you here. I think it has been identified—no, I guess that is carrying a separate exhibit number, U. S. 488. Can you identify that exhibit? *A.*—That is my signature.

Q.—And do you recall the exhibit 488 itself, so that you can describe what it is, without going into the details? *A.*—I believe I can.

Q.—What is it? *A.*—It is merely a report of what happened on February 26, from 7 o'clock to, oh, probably around midnight.

Q.—I now show you what has been marked as Defendants' Exhibit 2 for identification. Can you describe that document? *A.*—Yes, this is the hospital chart, because here is a mark I made on it.

Q.—Hospital chart of which case? *A.*—Miss Elizabeth Tew.

Q.—And are the accompanying papers attached to the chart? *A.*—Yes.

Q.—Just generally: Are they the papers in connection with Miss Tew's case? *A.*—Yes.

Q.—Do you recall at what time you first saw Miss Tew that evening? *A.*—I would say it was approximately some time between 7:30 and probably 8:30.

Q.—Where was she when you first saw her? *A.*—Ward B in Garfield, coming up in company with a nurse and one or two other persons. I couldn't be sure how many were with her, but there were some. I happened to see her as I walked down the corridor.

Q.—Did you later ascertain whether she had been assigned to a room? *A.*—I did, later.

Q.—Was the room in Ward B? *A.*—Yes.

Q.—When, if at all, was your attention next directed to Miss Tew being in the hospital? *A.*—I believe the next time was when Dr. Harry Kerr asked me to make an examination of Miss Tew.

Q.—Did you make an examination of Miss Tew in accordance with that request? *A.*—I did.

Q.—Who is Dr. Harry Kerr? *A.*—He was senior surgical staff man on duty at the time. His service extended, I believe, from the first of January to the 30th or 31st of March.

Q.—Did you, in pursuance of a telephone call, make an examination of Miss Tew? *A.*—I did.

Q.—Do you recall about when it was you made that examination? *A.*—It was somewhere around 9 o'clock.

Q.—In the evening, of course? *A.*—Yes.

Mr. Kelleher:—I think we ought to have this man testify without the use of that record.

By Mr. Leahy:

Q.—Doctor, is your recollection of those incidents clear in your mind now, so that you can testify without referring to the paper? *A.*—No, but my memory is a lot better since I have looked at this within the past two or three days and, in addition, having seen it at the grand jury. I don't know whether I can give you the details without looking at it; I will try.

Mr. Lewin:—Can you add anything to what is on it?

The Witness:—Possibly; it depends on what comes up; I don't know.

By Mr. Leahy:

Q.—If you can answer without looking at the paper, let's do the best we can that way, and if we cannot, we will ask for the privilege of looking at it.

Now, do you recall when it was you made the examination of Miss Tew? *A.*—Somewhere around 9 o'clock.

Q.—Where? *A.*—In the room assigned to Miss Tew in Ward B.

Q.—What was the result of that examination? *A.*—At that time I remember my feeling was that the case was not acute enough that it had to be operated on that night.

Q.—At any time did you see Dr. Selders in the hospital? *A.*—I did.

Q.—At any time did you communicate the information which you have just given to us as a result of your examination to Dr. Selders? *A.*—That, I don't believe I did; I think that I told Dr. Kerr over the phone the results of my examination. I don't believe I discussed my findings with Dr. Selders.

Q.—I show you, Doctor, what purports to be an original and a copy of the original, and ask you if you can identify those? *A.*—Yes, I do identify those.

Q.—And you identify them as what? *A.*—A paper that Dr. Selders requested that I sign, which I refused to sign until Dr. Kerr dictated what I was to sign, and it was signed as per Dr. Kerr's telephone order to me. Then I dictated this out and signed it and gave a copy to Dr. Selders.

Q.—What was the occasion of Dr. Selders asking you to sign such a paper as is before you? *A.*—On the advice of Dr. Kerr, because the case was not considered an acute emergency. Dr. Kerr asked me to tell Dr. Selders that he would not be allowed to operate in this case.

Q.—And you followed the instructions of Dr. Kerr? *A.*—That is correct.

Mr. Leahy:—I offer the two papers in evidence, if your Honor please.

Mr. Lewin:—No objection.

THE COURT:—Admitted.

Mr. Leahy:—The two papers which have just been identified are the original and a copy on the letterhead of Garfield Memorial Hospital, School of Nurses, Washington, D. C., dated Feb. 26, 1938.

"Dr. Selders,

"On the advice of H. H. Kerr, the case of Miss Elizabeth Tew is not considered an acute surgical emergency.

"T. J. Dugan,
"Assistant Surgical Resident."

By Mr. Leahy:

Q.—Now, did you tell us why it was Dr. Selders asked you to sign that paper? *A.*—Because after my examination of Miss Tew I talked to Dr. Kerr and he told me that it was not an acute emergency sufficient for a man who didn't have surgical

privileges at Garfield Hospital to allow him to operate, and that was the reason I gave him that paper.

Q.—At that time did you know whether Dr. Selders had surgical privileges at Garfield? *A.*—Only in case of a surgical emergency.

Q.—At any time did you see a Miss Peggy O'Connor or Miss Davis at the hospital that evening? *A.*—I saw a person who was introduced to me. It may have been Peggy O'Connor or anybody, for that matter, because I frankly wouldn't remember her name, or her face.

Q.—Do you remember whether there was a young gentleman in company with Miss Tew that evening? *A.*—Yes.

Q.—You met him on that occasion? *A.*—Yes.

Q.—Now, did there come a time when you talked with Dr. Selders with reference to his right to perform an operation there that evening on Miss Tew? *A.*—There was such a time when I talked to him, yes.

Q.—What was that conversation? *A.*—Well, essentially, that I was very sorry, but he would not be allowed to operate.

Q.—Did there come a time when you conveyed information to that effect to Miss Tew. *A.*—Yes, there did. I did convey that information to Miss Tew.

Q.—Do you recall when it was that you conveyed that to her? *A.*—Within probably twenty to thirty minutes after I conveyed it to Dr. Selders.

Q.—Do you recall whether the young lady and the young gentleman were in the room at the time you talked to Miss Tew about that matter? A.—They were, as was Dr. Bolton, and the nurse, Miss Marsh.

Q.—Give us to the best of your recollection what was said by you? *A.*—This was after Dr. Selders had been refused permission to operate: Is that what you mean?

Q.—Yes. When you told Miss Tew about it. *A.*—I went to Miss Tew's room because I felt it was only right that the hospital—

THE COURT:—Just what you said.

The Witness:—I don't remember the conversation but as far as—

Mr. Leahy:—The substance.

The Witness:—The substance was that since Dr. Selders was not on the courtesy staff of Garfield Hospital he would not be allowed to operate on Miss Tew, but that we would be very glad to have any member of the staff of Garfield or, for that matter, any member of the courtesy staff of Garfield Hospital, who she would want, or would name, we would have that doctor come down and examine her, and she could then follow his advice. After that she said, "No," she wanted Dr. Selders. I said, "I am sorry, Dr. Selders cannot operate on you." Then she said that she would leave the hospital. I said, "Well, if you leave Garfield, will you sign this hospital release," which I believe is here. She said, "Yes, I will be glad to sign it." Immediately Dr. Selders, or one of the other two witnesses said, "No, you can't," because she is under morphine, and then Miss Tew said, "No," she would not sign it. I said, "that is perfectly all right with me. Are you going to leave the hospital"? She said, "Yes." Then I said, "You are going to leave against the advice of the hospital and I will read this release to you."

Q.—Have you it here, that release? *A.*—It should be on this chart. Well, anyway, I read the hospital release to her and she still refused to sign it; then my recollection is that I said, "Well, I am awfully sorry," and left the room. In other words, no further discussion was entered into. Some time after that, oh, it must have been an hour, possibly two hours later, I went to Miss Tew's room by myself and said, "Miss Tew, this is a very unfortunate circumstance; I am sorry it has had to happen to you, and I am sorry we are both in this mix-up. Dr. Selders isn't able to operate in this hospital and, if I may suggest, and if I were in your place, when you go home I would go to bed, put an ice pack on my abdomen, take nothing by mouth except a few sips of water and stay in bed, and call another separate physician who is not mixed up, not connected with either Garfield or Group Health, or any organization, except a physician of your own choosing." And at that time Miss Tew was very, very pleasant; she was dressed and on the bed, and it was over two or three hours after she had her morphine, but then I told her not to leave until she got good and ready to leave; that there was no hurry.

Q.—Does the chart show how much morphine she had? *A.*—It should, yes: "Morphine, grains, a quarter, at 8:15 p. m."

Q.—Do you recognize among the papers of Miss Tew's record here the history which she gave on entrance? *A.*—This history was given to Dr. Kreutzburg and I read this history.

Q.—And did you read the history before you made the examination which you have just told us about? *A.*—I did.

Q.—What does that history disclose?

Mr. Kelleher:—Objected to; it speaks for itself.

Mr. Leahy:—Well, I can read it, or I can ask him to.

THE COURT:—He can read it.

Mr. Kelleher:—It is not in evidence.

Mr. Leahy:—Well, I will offer it in evidence, if your Honor please.

THE COURT:—Any objection to it?

Mr. Lewin:—Well, we will have to look at it.

THE COURT:—I thought it was admitted.

Mr. Kelleher:—Mr. Leahy, you are just offering the Kreutzburg at this time?

Mr. Leahy:—No.

Mr. Kelleher:—Are you offering it all?

Mr. Leahy:—Yes, that is all that history there.

Mr. Kelleher:—No objection.

THE COURT:—Admitted.

By Mr. Leahy:

Q.—Now, Doctor, I think you can read that more intelligently than I can? *A.*—"Blood pressure was 120 over 80."

This is Feb. 26, 1938:

"Nutrition, good; well developed and well nourished; not acutely ill. Head and neck—not remarkable. Chest—resonant throughout. Vesicular breathing—no rales. Heart—within normal limits; regular; no murmurs. Abdomen—right rectus rigidity tenderness to pressure in entire R. L. Q."—that is right lower quadrant; "No palpable masses; Pelvic—not done; Extremities—negative. Sub-acute appendicitis."

That is Dr. Kreutzburg's examination.

Q.—Now, did you have any other history before you as to what the lady was suffering from when you made the examination? *A.*—None, except what I got from her?

Q.—What history did you get from her? *A.*—May I refer to my notes? My impression is she had this trouble two or three days before she came to the hospital. I would like to refer to my notes if I may.

THE COURT:—You may refer to them if necessary.

The Witness:—I have here, "Having been ill for about a week with some R. L. Q. pain and nausea, temperature around 99.4 degrees." At the same time, though there was some very slight rigidity my impression was that it certainly was not acute enough to be operated in the middle of the night; at least, I wouldn't be inconsiderate enough to operate on a staff case—say a staff case came in with the same symptoms, I would wait until the next morning.

Q.—I will now show you what has been identified as Government's Exhibit U. S. 584, and I show it to you with the request that you identify it, if you can? *A.*—Oh, this is the release slip which I read to Miss Elizabeth Tew that evening. Do you want me to read it?

Q.—And when you read that to Miss Tew, what was her condition? *A.*—Well, this was 9:55 and I believe it is 8:15 she had this morphine, so it was a little over an hour and a half since she had it. I would say she was moderately groggy, no more than anybody else would be under the same circumstances.

Q.—What evidence did she give that she knew what the release was and that you wanted her to sign it? *A.*—Well, she refused to sign it. She said she would not sign it; she was going to leave the hospital.

Q.—Did she assign any reason why she wouldn't sign it?

Mr. Kelleher:—I thought we had been all over this.

THE COURT:—Yes.

By Mr. Leahy:

Q.—Will you just read what you asked Miss Tew to sign? *A.*—"I hereby acknowledge," this is Feb. 26, 1938, Washington, D. C.:

"I hereby acknowledge that Miss Elizabeth Tew is leaving the Garfield Memorial Hospital against the advice of the attending physicians, and that I assume all responsibility for the risk in so doing."

That is what we asked Miss Tew to sign if she insisted on leaving the hospital, but she didn't sign—

Mr. Kelleher:—Just a second.

By Mr. Leahy:

Q.—Yes. Now, are the names of any witnesses on there? *A.*—Yes, "Also present but not signing—Miss O'Connor, Mr. Adams, Dr. Selders, Miss Tew."

Q.—Doctor, was there anything unusual about a hospital, in your experience, not permitting operations by doctors who were not on the staff of the hospital?

Mr. Lewin:—Objected to. I don't know what his experience could be. I think he was the assistant resident at Garfield.

The Witness:—I was at Emergency.

Mr. Lewin:—Let us have Emergency, then; not all the hospitals in the country.

Mr. Leahy:—Nobody said anything about all hospitals in the country.

Mr. Kelleher:—I don't think he is qualified.

By Mr. Leahy:

Q.—I will ask you have you had experiences where other doctors were denied permission to operate on patients in hospitals because they were not a member of the staff of that hospital? *A.*—Oh, yes.

Mr. Lewin:—Wait a minute.

THE COURT:—I think it is competent. If the Government contends this was an unusual situation which related only to Dr. Selders, I think it is competent to show that it was not, if they can.

Mr. Lewin:—The Government contention is that this is the usual treatment Dr. Selders got from all the Washington hospitals.

THE COURT:—If you have a right to show that such treatment was out of the ordinary, I think they have the right to offer evidence to the contrary.

Mr. Kelleher:—Yes, if this witness is so qualified to testify.

THE COURT:—Well, he is a doctor. They cannot prove it by any other way than by those employed in hospitals. It seems to me that is the best proof.

By Mr. Leahy:

Q.—While you were at Emergency, for instance, did you know of doctors who were not on the staff of Emergency, other than Dr. Selders, who had been refused privileges to treat patients there and operate? *A.*—Certainly. I have transferred a patient from Emergency by way of their ambulance to Providence purely because the doctor did not have privileges at Emergency.

Q.—And he was not a Group Health Doctor? *A.*—Certainly not. This was long before I ever heard of Group Health. This was a year before this Tew incident.

Q.—Now, Doctor, did you know Dr. Selders before you met him that evening at Garfield? *A.*—I scrubbed with him a few times before, yes.

Q.—Where did you scrub with him?

THE COURT:—Now, what is scrubbing?

The Witness:—Well, as far as this scrubbing is concerned, it is nothing more than just that. You have your scrub suit and go up to a basin, turn on the water and you scrub and scrub, and you keep that up until you get disgusted. Then you clean your nails. Of course, there is a technic about it.

THE COURT:—Well, anyway, it is a cleansing process?

The Witness:—It is purely a cleansing process to be sure your hands are clean.

By Mr. Leahy:

Q.—Have you scrubbed in that fashion before with Dr. Selders at Garfield? *A.*—I have.

Q.—How many operations have you assisted Dr. Selders in? *A.*—I am not certain but I would say anywhere from three, to five or six operations.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Do you mind telling us how old you were at the time of this Tew incident? *A.*—That was in 1938; this is '41. Now I am 31 tomorrow, so I was in the neighborhood of 26 to 30. It happened in '38; this is '41. I am 31 tomorrow, so you can figure it out.

THE COURT:—Let us stop this laughter. I have already spoken concerning it. I want it stopped. If it doesn't, I am going to clear the courtroom.

By Mr. Lewin:

Q.—Doctor, you were 28 years old at that time? *A.*—I was.

Q.—When did you finish your internship? *A.*—About eight months prior to the time of this Tew incident.

Q.—So you had been a full-fledged doctor for eight months at that time? *A.*—Yes.

Q.—Are you the only one of Garfield who made an examination of Miss Tew that night? *A.*—No, Dr. Kreutzburg.

Q.—Is he an intern? *A.*—He was.

Q.—Did he rank above or below you? *A.*—Below.

Q.—And he is a younger man than you? *A.*—That I wouldn't know; he is about my age.

Q.—About 28 years old? *A.*—I would say 28; maybe 32; approximately that age group.

Q.—Do you know when he received his degree? *A.*—The year following me, from Georgetown.

Q.—So that would be about what year? *A.*—1937.

Q.—He had been a doctor since 1937? *A.*—Yes.

Q.—But he had still to do his internship? *A.*—Yes.

Q.—And did anybody else at Garfield make this examination of Miss Tew except you two gentlemen? *A.*—Not that I know of.

Q.—When you made the examination of Miss Tew you had heard she was a Group Health patient? *A.*—I believe I had, yes.

Q.—You had heard that Dr. Selders had posted the operation? *A.*—That is correct, yes.

Q.—You knew that he was down in the room scrubbing for the operation? *A.*—Oh, no; of course not.

Q.—Didn't you know that? *A.*—No, of course not. Dr. Selders never did scrub that night. His hands were just as dirty when I saw him last as they were when he first came in.

Q.—He came in to go down to scrub, did he not? *A.*—Yes, he came in and was going to scrub. I tried to get him. I would have stopped him before, if I had been able to get him. If I had reached him I would have said, "You haven't surgical privileges in this hospital, so you can't operate," but I couldn't get him.

Q.—The point is he had called the hospital, had posted the case; had sent the case there, and Miss Tew had been taken to her room, and this doctor had on his scrubbing suit and was ready to go to work. *A.*—Yes.

Q.—And then you stopped him? *A.*—Yes, I did.

Q.—You knew that he was down there ready to scrub at the time you made this examination? *A.*—May I say something further?

Q.—Certainly, but I wish you would answer my question. *A.*—This is all fine if we didn't have anything else to do, except sit there and take care of Dr. Selders, but it so happened that on that particular night it was awfully busy, if I may say so, because I was scrubbing with one other case posted five minutes before Dr. Selders came, an appendix that Dr. Smiler did; I was tied up there. At the same time there were one or two cauterizations to be done; and I had to take care of this other work in addition to trying to get hold of Dr. Selders, and when he did get in I was in the operating room working on another case.

Q.—But you knew that Dr. Selders was ready to proceed with the operation? *A.*—Yes.

Q.—And you knew that she was a Group Health patient? *A.*—Yes.

Q.—You also knew that some doctor objected to Dr. Selders performing the operation? *A.*—What doctor?

Q.—Didn't you know that a member of the staff there objected to Dr. Selders' presence in the hospital? *A.*—Oh, Miss Patton, who was assistant superintendent of nurses, a fuss budget, came up to me and said, "Dr. Dugan, Dr. Edgar Davis is all upset because Dr. Selders is going to operate."

Q.—Who is Dr. Davis? *A.*—A surgeon in town.

Q.—A member of the Medical Society? *A.*—Yes.

Q.—Was the statement that Miss Patton made to you, was that what put you in motion that caused you to examine Miss Tew? *A.*—No, indeed. Miss Patton had nothing to do with it. She was saying how awful it was, what a terrible thing it was that Dr. Selders, who had no courtesy privilege, was going to operate; this and that; it amounted purely to nothing, so far as what she said.

Q.—You hadn't told Dr. Kerr at the time you made this first examination? *A.*—I think I had talked with Dr. Kerr. Of course, it was my right and privilege to examine any patient in the hospital I wanted to, particularly, on surgical service. In other words, I could have examined her as soon as she got in bed, but if I felt there wasn't reason to examine the case I didn't have to.

Q.—The point is you examined her as the result of Miss Patton's having told you Dr. Davis had said something about it, and how he felt. *A.*—No, I examined her as the result of my own desire, before I talked with Dr. Kerr.

Q.—You just told us this was a very busy night. *A.*—Yes.

Q.—Dr. Selders hadn't asked you to examine his patient? *A.*—No.

Q.—Dr. Kerr hadn't asked you to examine the patient? *A.*—No. Here is the reason why—

Q.—Just answer the question. I will give you a chance to explain. No one had told you to examine that patient? *A.*—That is correct.

Q.—You wouldn't ordinarily examine that patient on that busy night without somebody telling you to do it? *A.*—Might I put in something there?

Q.—Yes. *A.*—Yes, I would have on that busy night whether anybody told me to examine her or not.

Q.—Didn't you examine that patient as the result of what Miss Patton had told you Dr. Davis had stated? *A.*—No, absolutely not. Do you think—

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THE COURT:—Don't ask questions. Just answer them. Let the lawyers do that.

The Witness:—I am sorry, your Honor.

By Mr. Lewin:

Q.—Isn't this a correct statement of what happened? At 7:10 a Dr. Smiler had called and posted an acute appendix in the ward there? *A.*—May I read this?

Q.—About 7:15 Miss LaFevre called and said that Dr. Selders had posted a case for 8:30, and did he have surgical privileges. That you then went to Mr. Macatee's office and found him off duty. Now who is Mr. Macatee? *A.*—He was the night superintendent of the hospital or, I think his title is, probably, treasurer of the hospital. He was the business manager who generally was on duty to 10:30 or 11 at night.

Q.—You tried to call Dr. Selders but were unable to reach him? *A.*—Yes, that is correct.

Q.—And Dr. Davis, that is this Edgar Davis, had heard that Dr. Selders had posted a case. Now how did he know that? *A.*—Through Miss Patton.

Q.—"I called Dr. Eisenman immediately and was told Dr. Selders did not have surgical privileges unless it was an acute emergency." Who told you that? *A.*—I was told by Dr. Eisenman.

Q.—You called Dr. Eisenman and he told you Dr. Selders didn't have surgical privileges unless it was an acute emergency, "a ruptured appendix"? *A.*—Yes.

Q.—Didn't you say before the grand jury that "Unless the appendix is rutpured or very warm"? *A.*—It is essentially the same.

Q.—Yes? *A.*—It would have to be an awfully acute condition.

Q.—And Dr. Selders, then, would not be permitted to operate in that hospital unless it was an acute emergency, in which case he would be entitled to do so; is that true? *A.*—I think probably anybody could get privileges if somebody was going to die.

Q.—Even a man like Dr. Selders could get privileges for an emergency?

Mr. Leahy:—That is argumentative.

Mr. Lewin:—I submit the witness started the argument.

THE COURT:—Just answer the questions.

By Mr. Lewin:

Q.—Now then, Miss Patton came up to you, and she was the assistant superintendent of nurses, was she not? *A.*—That is correct.

Q.—And she told you that Dr. Edgar Davis had been in to see her and that Dr. Davis had said that if Dr. Selders was to operate he would have to take his patients elsewhere? *A.*—That was second-hand, though, from her.

Q.—You believed it, though, coming from her, did you not? *A.*—It didn't make any difference to me one way or the other what she said.

Q.—Why did you put it in this report then? *A.*—I tried to put in everything that happened that night so that if anything came up in the future I would have a record of what transpired.

Q.—It was after those talks with Dr. Eisenman and Miss Patton that you decided to examine Miss Tew? *A.*—I decided to examine her, yes.

Q.—Wasn't it the result of Eisenman and Miss Patton's conversation with you, the latter having related what Dr. Davis said? *A.*—May I ask a question? It is purely this: If I called up Dr. Kerr what was I to tell him about the patient? In other words, when I called him it would be relative to Miss Tew and, as a result, I had to at least be able to tell him something; whether she was white or colored; was she tender? In other words, something about the case. That is the only reason I examined her.

Q.—The first thing you told Dr. Kerr about was the G. H. A. connection and that Dr. Selders wanted to operate; isn't that true? *A.*—No, I don't think so, as far as I remember. It was all wrapped up in the same thing. I didn't have to say G. H. A. to Dr. Kerr because he knew Dr. Selders by name.

Q.—Dr. Kerr knew about Dr. Selders in Group Health? *A.*—I suppose he did, because he was on the surgical staff that refused him the privileges.

Q.—And when you called Dr. Kerr, you called attention to the fact that here was a G. H. A. patient, did you not? *A.*—Not that I know of.

Q.—Didn't you say on your memorandum that you told him about the circumstances of the patient? *A.*—Circumstances of the patient coming in, having a more or less tender abdomen. I didn't mention G. H. A. It wasn't necessary for me to mention it to Dr. Kerr that she was a Group Health case. He knew; after all, he was a staff man.

Q.—Why was it necessary to call Dr. Kerr? *A.*—Because Dr. Selders, like a lot of other men, didn't have surgical privileges at Garfield.

Q.—Therefore you called Dr. Kerr to see whether or not an exception might be made in his case? *A.*—That is it.

Q.—And you didn't tell him it was Dr. Selders with a G. H. A. case? *A.*—No, I didn't.

Q.—Didn't you say you called to see whether an exception might be made? *A.*—I don't think I said "an exception." I called to explain the situation to him and to tell him that Dr. Selders wanted to operate.

Q.—Do you call Dr. Kerr every time you make an examination of a patient? *A.*—I would if there was any question in my mind about it.

Q.—And you called Dr. Kerr on that occasion because there was a question in your mind? *A.*—Yes.

Q.—And you must have told him that it was Dr. Selders who wanted to operate and that the patient was a G. H. A. case, didn't you? *A.*—I may have mentioned it.

Q.—Aren't you sure that you did mention it? You just told us that the reason you called Dr. Kerr was because you had a question in your mind; the question was whether Dr. Selders could operate. *A.*—Yes.

Q.—Now do you mean to say that you didn't explain those circumstances to Dr. Kerr? *A.*—I may have; not that I remember.

Q.—What did Dr. Kerr tell you? He told you to call Dr. Eisenman, did he not? *A.*—I don't know whether he did or not.

Q.—Why would he have told you to call Dr. Eisenman if he didn't understand this was a question of hospital privileges so far as Dr. Selders was concerned?

Mr. Leahy:—Objected to as argumentative.

THE COURT:—Yes.

By Mr. Lewin:

Q.—Is it usual for you to call Dr. Kerr and for him to tell you to call Dr. Eisenman when you make an examination? *A.*—I don't think he did tell me to call Dr. Eisenman. He called Dr. Eisenman.

Q.—Did he tell you the purpose of calling Dr. Eisenman? *A.*—No.

Q.—Just told you he would call Dr. Eisenman? *A.*—I don't know that he did that. I have it down here. "He then called Dr. Eisenman."

Q.—Did he tell you why he did that? *A.*—No.

Q.—How do you know that he called Dr. Eisenman? *A.*—I have it here: "He then called Dr. Eisenman by phone and Dr. Eisenman immediately called me back and told me that under the circumstances, having no surgical privileges, he could not operate."

Q.—What is your testimony now? How do you know Dr. Kerr had called Dr. Eisenman? *A.*—How did Dr. Eisenman get into this picture at all? How would he know anything about calling me? Telepathy? Eisenman has to get in the picture in some place. I called Dr. Kerr, and he called me.

Q.—But you didn't say anything about Group Health to Dr. Kerr? *A.*—I told him about this case that Dr. Selders had.

Q.—Did you tell him it was a Group Health case? *A.*—I don't think so.

Q.—At any rate, after Kerr called Eisenman, Eisenman called you and told you there could not be any operation by Dr. Selders? *A.*—He told me that under the circumstances, having no surgical privileges, Dr. Selders could not operate.

Q.—And the circumstances were that he didn't have privileges? *A.*—Didn't have privileges, surgical privileges.

Q.—And that action was based solely on your report—that decision that it was not an emergency—that you didn't regard the case as acute? *A.*—I don't know what effect my report had.

Q.—If it had been acute he would have had the privilege of operating on Miss Tew that night? *A.*—I don't know; I couldn't give him the privilege.

Q.—Didn't you say that if it was acute he would have that privilege. *A.*—No, I said that if they told me for him to go ahead and operate it was all right with me.

Q.—Didn't you testify that if it was an acute surgical emergency anybody could operate? *A.*—I didn't want to decide what an acute surgical emergency was and passed it to Kerr to let him stick his neck out as to what was an acute surgical emergency.

Q.—And Dr. Kerr at no time did act on anything except what you reported? *A.*—I suppose so.

Q.—And that was, first, that she was a Group Health patient; second, that Dr. Selders was going to perform the operation; third, that she had morphine, and that you had examined her after the morphine was given and you found some R. L. Q.

pain and tenderness, but that you didn't think it was acute to require immediate operative treatment. *A.*—May I say something?

Q.—Yes. *A.*—Let's take a picture of a poor Negro.

Mr. Lewin (interposing):—Oh, let's not take a poor Negro; let us take this case.

THE COURT:—You have been all over this: Now you (to witness) answer the questions; let counsel ask them.

By Mr. Lewin:

Q.—Now you read Dr. Kreutzburg's history? *A.*—Yes.

Q.—And in that history didn't you find this statement:

"When this acute illness first began the pain was in the R. L. Q. and has remained there."

Did you have that statement in her history? *A.*—I don't have her history.

Q.—Will you refer to it? *A.*—Now what was that again?

Q.—Didn't you find in that history this statement:

"When this acute illness first was experienced the pain began in the R. L. Q. and has remained there?

Not word for word? *A.*—You mean is that what I read?

Q.—Yes. *A.*—Well, here it is:

"Present illness. Attack began just one week ago. The pain at onset was in the R. L. Q. and has remained so. She had several episodes of nausea and vomiting the day following the onset but has had none since."

That is correct.

Q.—Would you say that type of history would fit in with an acute appendix? *A.*—It fits in but, my goodness, anything can give you that.

Q.—Wouldn't it be consistent with acute appendicitis? *A.*—It could be, but it is not diagnostic.

Q.—Didn't you see on the history; examination, I should say, "Subacute appendicitis"? *A.*—Yes.

Q.—Didn't you know her temperature was 99.4? *A.*—Yes.

Q.—Did you know her white blood count was 14,400? *A.*—Not until after.

Q.—Isn't it usual to take a white blood count wherever symptoms of appendicitis are present? *A.*—It is.

Q.—And you wouldn't like to pass on whether an appendix was acute without a blood count, would you? *A.*—I would love it. It is only worth what you can fit into the picture.

Q.—Doesn't a white blood count of 14,400, considered with these other symptoms—isn't that important in determining whether an appendix condition is acute? *A.*—It could but it could fit into so many other things.

Q.—Isn't a high white blood count an indication of infection in the system? *A.*—Yes.

Q.—Was this 14,400 blood count a high blood count or not? *A.*—Moderately high.

Q.—What is normal? *A.*—About 7,000 to 8,000.

Q.—And here you had double that and you say that is—

Mr. Leahy (interposing):—That is argumentative.

THE COURT:—I think it is.

By Mr. Lewin:

Q.—I ask whether the statement on the Kreutzburg history; the statement of her illness that you obtained from the patient herself; the tenderness that you found in the R. L. Q. region; the temperature of 99.4 degrees, and the white blood count of 14,400 did not fit in very well with a diagnosis of an acute appendicitis? *A.*—I didn't think it was acute, sufficiently so to be operated on that night.

Q.—And Dr. Selders did think so? *A.*—Yes.

Q.—So it was your judgment against his? *A.*—Dr. Selders made a statement that any time you can diagnose an appendix it should be operated immediately. I didn't entirely agree with his statement.

Q.—And you weren't so sure of your diagnosis, and you called Dr. Kerr? *A.*—May I say something first? Relative to my duties as resident at the hospital—

Q.—Well, if you would like to. *A.*—(Continuing) I would like to. Supposing a patient came into the hospital; separate and distinct, a ward case that couldn't pay a thing. The intern in the emergency room would examine the girl. I would examine her. If I thought it was an acute case I would pick up the phone, call the staff man on service, Dr. Kerr, and he would either say "Go ahead and operate the case" or "I will come down" or "We will leave it until tomorrow."

Q.—Is that the usual procedure when a patient comes there with her own physician, who has diagnosed the case as acute and is ready to operate? *A.*—It is not the usual thing, no.

Q.—It is a very unusual procedure to go over the diagnosis made by a patient's own doctor, is it not? *A.*—I won't say that, because I recall two specific cases in which it was a good thing that the intern did it.

Q.—Were these cases like this? When Dr. Selders had already diagnosed the case as acute, and when all these symptoms were present as have been described? *A.*—Well, it is not a run of the mill; I would not have called Dr. Kerr if the man had surgical privileges. He could have taken the hospital, so far as I was concerned.

Q.—When you made this examination of Miss Tew, she had this morphine in her? *A.*—Yes.

Q.—Recently? *A.*—Eight-fifteen; and I examined her shortly after 9.

Q.—And you say that she was at that time still groggy? *A.*—Yes, she would remain groggy for four or five hours.

Q.—And so at that time you made your examination there must have been a marked effect produced by this morphine? *A.*—I wouldn't say "marked."

Q.—Hasn't it a tendency to relax the patient? *A.*—Relax, quiet, soothe.

Q.—And alleviate the pain which the patient is suffering? *A.*—Yes.

Q.—She wouldn't be experiencing anything like as sharp a pain after you gave her this morphine as she would without it, would she? *A.*—That is true, but it is a good diagnostic practice to help localize pain in the lower right quadrant.

Q.—And it diminishes the pain? *A.*—Yes, and it helps localize it.

Q.—So when you made the examination after the morphine was administered you didn't have the benefit of the normal amount of pain she had at the time that Dr. Selders examined her? *A.*—I realized that at the time of examining her.

Q.—Would the morphine have a tendency to relax the patient's muscles?

THE COURT:—I am suggesting there ought to be some limit to cross examination. Are we going to go into all the effects of morphine? Is there any connection between this morphine and the issue here?

Mr. Lewin:—I think there is, very definitely.

THE COURT:—Well, proceed, but there ought to be some limit to it.

Mr. Lewin:—Here was a case in which this young bright doctor—

THE COURT:—I don't want to argue: I am merely suggesting. Can't you limit the examination within reasonable bounds?

Mr. Lewin:—I subside: if I have been unreasonable, I withdraw.

THE COURT:—That remark, you know as a lawyer, is not proper, and I am not going to sit here and take offensive remarks from counsel. Let that be understood.

Mr. Lewin:—I repeat that—

THE COURT (interposing):—I repeat when I make a ruling that counsel—and this is irrespective—it is not to be followed by offensive remarks to the Court. Now, Mr. Lewin, you have got to conform to that. There is no other counsel here in this courtroom that won't respect my rulings without comments after they have been made. Your own associates do it; other counsel representing defendants do it. I make rulings with respect to you and frequently there are comments which follow. That is not lawyer-like.

Mr. Lewin:—I think, your Honor, that your reprimanding me is very unfair to me and very unfair to the case: I really do.

THE COURT:—If it is unfair to the case, you brought it on yourself.

Mr. Lewin:—I am sorry for it.

THE COURT:—I am very sorry for it. It is altogether beyond my desire to have instances like this arise in the case but I cannot sit here and permit you to indulge in continual comments on my rulings after they are made. Are you through with the witness?

M. Lewin:—Your Honor, with your ruling, I have to be.

THE COURT:—You don't have to be. I have suggested that your cross examination as to morphine has gone far enough. If you have any further pertinent matters to go into, you may proceed.

Mr. Kelleher:—Your Honor, may we approach the bench?

THE COURT:—Yes.

(Thereupon Court and counsel conferred at the bench in a low tone of voice, which was no part of the record.)

TESTIMONY OF DR. HARVEY FRANKLIN KREUZBURG

DIRECT EXAMINATION

By Mr. Leahy:

Harvey Franklin Kreuzburg, 7852 Sixteenth Street, said he has been practicing medicine not quite two years. He graduated from Georgetown in 1937, served his internship at Garfield Hospital June 1937 to July 1939.

Q.—Do you recall an occasion when Miss Elizabeth Tew came into Garfield, Doctor? *A.*—I do.

Q.—Have you an independent recollection about it now, so that we don't need to refer to any papers? *A.*—I believe so.

Q.—Well, were you on duty the night that she came to the hospital? *A.*—Yes, I was.

Q.—In what capacity? *A.*—I was the intern on surgery.

Q.—Did you see Miss Tew there? *A.*—I did.

Q.—Do you recall about what time you first saw her? *A.*—Oh, I think it was around 8 or 9 o'clock at night.

Q.—Did you at any time make an examination of Miss Tew? *A.*—I did.

Q.—And at that time did you take a history from her before the examination? *A.*—Yes, sir.

Q.—Would you tell us what history you received? *A.*—Why, apparently she had been having some discomfort in her pelvis, moderate pain in her right lower quadrant, some backache, I believe, and she told me that she had been examined by a Dr. Selders who told her that he thought she had something wrong with her appendix and that her uterus was misplaced, retroverted, and that surgery was indicated, at which time he would remove the appendix and suspend the uterus or any other pelvic pathology that needed correcting.

Q.—Did you examine her following the history she gave you? *A.*—Yes.

Q.—What did you conclude from your examination as to the acuteness or otherwise of the illness? *A.*—Well, I thought she might possibly call it a subacute appendix, or not an acute one; I couldn't say about the pelvic pathology because I didn't do a bimanual examination.

Q.—Was there anything about the condition at that time which indicated an immediate operation? *A.*—No, sir.

Q.—Was this examination before or after morphine was administered to Miss Tew? *A.*—I examined her before she had anything.

Q.—Did you check with Dr. Selders at all about her that evening? *A.*—No, sir.

Q.—Were you there when she left the hospital? *A.*—I didn't see her leave, no.

Q.—Did you have any further conversation with her at all after you made the examination you have just told us about? *A.*—No, I did not.

Q.—That is your entire connection with the case, is it? *A.*—Yes, sir.

Q.—And you never had any conversation with Dr. Selders that evening at all? *A.*—No, sir.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. Kreuzburg, you mean to tell this jury that Miss Tew told you all this business about the inverted uterus and that Dr. Selders would take out her appendix casually when he happened to operate on her for the other trouble? *A.*—That's what he did tell her; that's what she told me, anyway. I took her history and asked the patient those questions.

Q.—Look at your history and see if—did you write the history down as you took it from her? *A.*—I don't remember as I—I took the history and went outside and wrote it down.

Q.—Is it your custom to write up a history of the patient as she gives it to you? *A.*—Well, yes.

Q.—Is that right? Did you write in your history that this lady was there for this inverted uterus situation? *A.*—No.

Q.—And that this— *A.*—I just wrote down her symptoms.

Q.—Did you? *A.*—Past history.

Q.—All right. Let us see your history.

Mr. Kelleher:—The reporter has it.

Mr. Lewin:—Where is the history?

(There was colloquy outside the record.)

Mr. Lewin:—The history is gone.

THE COURT:—Gentlemen, I have to be in my office at 3 o'clock on some other matters today. Suppose we take this opportunity to adjourn. We can only save a few minutes.

MARCH 10—MORNING

TESTIMONY OF DR. HARVEY F. KREUZBURG

CROSS EXAMINATION (RESUMED)

By Mr. Lewin:

Q.—Dr. Kreuzburg, when we suspended examination last week you had told us some things which Miss Tew told you and which you said you put into her history. *A.*—No; I don't believe so. She told them to me. I did not necessarily put them into the history.

Q.—Did you not say that you did put those things that she told you into her history when you wrote it up? *A.*—No; I did not. I put her symptoms and her physical examination into the history.

Q.—Let us read to the jury, if you will, what it was you put into the history. Is this (indicating) the history? *A.*—Yes.

Q.—Is this (indicating) your signature? *A.*—That is right.

Q.—First, you put down her description and her occupation? *A.*—That was put in by the nurse.

Q.—You put in this part which is in handwriting? *A.*—That is right.

Q.—What is this word (indicating) at the top? *Q.*—"Chief complaint."

Q.—You wrote "Chief complaint, pain in R. L. Q."? *A.*—Right lower quadrant.

Q.—"Present illness: attack began just week ago. The pain at onset was in the R. L. Q. and has remained so. She has had several episodes of nausea and vomiting the day following the onset but has had none since. No previous attacks. Past history: no serious illnesses." *A.*—No operations.

Q.—No operations. "Respiration negative"? *A.*—Respiratory system negative.

Q.—"Cardiovascular negative?" What is that—the heart? *A.*—Yes.

Q.—"Genitourinary"—what is this (indicating)? *A.*—Menstrual.

Q.—"Severe dysmenorrhea. Nothing unusual about the last period." And it is signed "Kreuzburg" *A.*—Yes.

Q.—Did you have occasion to diagnose her? *A.*—Yes.

Q.—After the physical examination, the items of which you recorded, you recorded this diagnosis, did you not: "Sub-acute appendicitis"? *A.*—That is right.

Q.—And you did not diagnose it as any feminine complaint? *A.*—I did not do a pelvic examination. I was not allowed to.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—What was that last answer? *A.*—I did not do a pelvic examination on the woman, because interns are not allowed to, except with the permission of the attending physician. So I could not diagnose any pelvic disorder.

Q.—May I show you these records once more, please, Doctor? Would you kindly look at this portion of the record to which I am drawing your attention now? Did you have a chat with Dr. Selders? *A.*—No, sir.

Q.—Did you overhear Dr. Selders make any statement, such as I am drawing your attention to? *A.*—No, sir.

Q.—On an acute appendicitis or sub-acute appendicitis is a median line made? *A.*—No, sir.

Q.—What is meant by "median line"? *A.*—Well, the common incision for appendicitis would be the McBurney incision if you are certain that the patient has nothing but an appendix. But if you suspect pelvic pathology you would make an incision where you could do more than just to take out the appendix.

Q.—Where would that incision be? *A.*—In the midline.

Q.—And that means the center of the abdomen? *A.*—Yes.

Q.—The opening for an appendix is over to the right? *A.*—Yes. You cannot handle a McBurney incision to do a pelvic surgery.

Q.—If a pelvic incision is made you can then remove the appendix also? *A.*—Yes, sir.

RE-CROSS EXAMINATION

By Mr. Lewin:

Q.—In other words, Doctor, the midline incision is proper surgical technic if the surgeon wishes to remove an acute appendix, and if he also suspects that there may be other conditions in the pelvic cavity? *A.*—That is right.

TESTIMONY OF DR. ROBERT M. BOLTON

DIRECT EXAMINATION

By Mr. Leahy:

Robert M. Bolton said he is a practicing physician in Washington. He graduated from George Washington University School of Medicine in 1931 and had an internship at Garfield Hospital in 1931-1932.

. . . . . .

Q.—Were you in the hospital on the evening that Miss Tew was brought into Garfield? *A.*—I was. I was called in.

Q.—What was the occasion of your being there? *A.*—I would have been the anesthetist in the case.

Q.—Do you know Dr. Dugan? *A.*—Yes; I do.

Q.—Do you know Dr. Kreuzburg? *A.*—I do.

Q.—Did you know Miss Tew? *A.*—Not personally; no.

Q.—Did you see her there that evening? *A.*—I did.

Q.—When did you see her there? *A.*—I saw her at the time that Dr. Dugan and myself went up with a release statement for her to sign. I simply accompanied Dr. Dugan out of courtesy to him; he had asked me to go up with him.

Q.—Did you go into Miss Tew's room on that occasion? *A.*—I did.

Q.—Who was in there when you got in there? *A.*—Miss Tew was in bed, and there were a man and a woman and, I believe, at the time I went in, Dr. Selders was there. He either was there when I went into the room or he followed us in.

Q.—Do you recall the conversation now? *A.*—Not in detail; no.

Q.—Can you give us the substance of it? *A.*—Well, the doctor had this release statement which he asked Miss Tew to sign releasing the hospital—the usual form for those things—releasing the hospital of obligation, and my recollection is that she was at first willing to sign the statement; in fact, I think she either had a pen or pencil in her hand, ready to sign it, and these two friends, this man and woman, urged her not to sign it, and Dr. Selders also urged her not to sign it.

Q.—Did they give any reason for that? *A.*—I don't recall any definite reason; no—except that she had had—I believe they said she had had morphine, a hypnotic, and that she was not in her right mind and should not sign it.

Q.—Do you recall anything which Dr. Dugan then said when Miss Tew was advised not to sign it? *A.*—No; I don't recall any statement except "All right." And we left the room.

Q.—Did you return at all after that? *A.*—I don't believe I did. I am sure I did not.

CROSS EXAMINATION

By Mr. Lewin:

Q.—You do not know whether Miss Tew was in proper condition to sign a legal paper or not, do you? *A.*—Well, under ordinary circumstances she should have been able to sign a paper like that, I would say. That would be my opinion.

Q.—Would it depend to some extent on how sick she was and the quantity of morphine that had been given her? *A.*—You could give her enough morphine, certainly, so she would not be in condition.

Q.—You would not advise a patient in a hospital to sign a release if she were in a groggy condition from morphine? *A.*—No, sir; not if she was in a groggy condition.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Is there anything on the chart to indicate how much morphine she had, Doctor? *A.*—There should be.

THE COURT:—I thought it was testified that she was given a quarter of a grain.

Mr. Leahy:—I thought it was, but I do not recall.

The Witness:—Yes.

By Mr. Leahy:

Q.—How much? *A.*—One-quarter grain.

Q.—Does that make a person very groggy? *A.*—Not under ordinary circumstances.

Q.—Did she appear to you to be groggy, Doctor, if she had a pencil ready to sign that statement? *A.*—I didn't think so.

Q.—Was anything said there to the effect that she might remain in the hospital if she wished, as long as she desired to? *A.*—Yes.

Q.—Who made that statement? *A.*—Dr. Dugan made it.

RE-CROSS EXAMINATION

By Mr. Lewin:

Q.—You did not examine the patient, did you? *A.*—No, sir.

Q.—You do not know how much pain she was suffering? *A.*—No, sir.

Q.—Have you any reason to quarrel with Dr. Dugan's statement that he considered her in a groggy condition? *A.*—No; I would not quarrel with it.

TESTIMONY OF MRS. MARGARET JONES

DIRECT EXAMINATION

By Mr. Leahy:

Mrs. Margaret Jones is a registered nurse employed at Emergency Hospital. This position she said she has had since November 1934. She identified the record of Sarah Abbott.

Q.—When was she brought in? *A.*—Jan. 26, 1938.

Q.—Were you on duty that day? *A.*—Yes; I was on duty.

Q.—Do you recall Miss Abbott? *A.*—Yes; I do.

Q.—Did you personally have anything to do at all with the case of Miss Abbott? *A.*—Yes; I did.

Q.—What did you do in connection with it? *A.*—When she was brought into the emergency room by the ambulance I took the record on her, her name and address and what she was in there for; and she stated that she had been struck by an automobile an hour previous to coming into the emergency room, and she complained of injury to her leg.

Q.—Were there doctors in the emergency room at the time? *A.*—Yes.

Q.—Do you recall their names? *A.*—Dr. Phillip Smith was the doctor who took care of Miss Abbott.

Q.—Were you present to see what was done? *A.*—Yes.

Q.—What was done on that occasion? *A.*—The doctor ordered that a pillow splint be put onto the injured leg because of the possibility of fracture of the small bone, and he also ordered an ice-cap to the leg to take care of swelling and relieve pain; and I put that on. He also ordered a medication for the relief of pain, which the patient refused.

Q.—Was there any discussion there at the time about any other doctor coming in? *A.*—Not in my presence.

Q.—Did you see Miss Abbott at all after she was in the emergency room? *A.*—Yes. I helped to give her first aid.

Q.—After first aid was given, was any other treatment given Miss Abbott in the hospital? *A.*—No—well, she was admitted to the hospital proper.

Q.—When you say "she was admitted to the hospital proper," will you just tell us what the custom of that hospital is in admitting patients from the emergency room to the hospital? *A.*—A patient brought in to the emergency room is examined and administered any first aid that seems necessary, and if the condition of the patient seems to warrant hospitalization over a period longer than a few hours, arrangements are made through the admitting office for the admission of that patient into the hospital.

Q.—And was Miss Abbott admitted, through the admitting office, to another part of the hospital? *A.*—Yes; she was admitted to a semiprivate room.

Q.—Did you see her at all while she was in the semiprivate room? *A.*—No; I did not see her after she left the emergency room.

Q.—Are there any entries upon any of those papers which you have before you in your own handwriting? *A.*—Yes; the emergency record.

Q.—That shows she came in at what time? *A.*—At eleven minutes past 10. The ambulance received the call to go to the All-States Hotel at 9:56 p. m. At eleven minutes past 10, which was fifteen minutes later, she was brought in.

Q.—After "Disposition of case" you have some abbreviations. What do those refer to? *A.*—This (indicating) is merely the ambulance record, up here. That means that the patient was brought in.

Q.—Are these entries under the heading "Emergency Department" in your handwriting? *A.*—Yes, sir.

Q.—Her name and address and the date, the time she was brought in, the doctor and the nurse. Who was Miss Patterson? *A.*—That is I.

Q.—Will you translate for us, so that we will understand, just what the diagnosis was at that time? *A.*—The diagnosis given to me by Dr. Smith was hematoma, the left leg.

Q.—What does that mean? *A.*—A bruise with a collection of blood under the skin, which causes discoloration and swelling.

Q.—Now there are some more abbreviations. What are they? *A.*—Possible fracture of the left fibula.

Q.—What is the fibula? *A.*—The small bone in the lower leg.

Q.—Now, the treatment? *A.*—Ice cap to left leg. Refused codeine. A pillow splint was applied.

Q.—What is a pillow splint? *A.*—A pillow splint is a pillow which is put around the leg and tied securely with bandage to immobilize the part.

Q.—Now, are any entries on the reverse of the card in your handwriting? *A.*—The patient's name and address; and the date, and the doctor whose service she was to be admitted on.

Q.—Who was the doctor in whose service she was to be admitted? *A.*—Dr. William Marbury.

Q.—Do you know Dr. Marbury? *A.*—Yes.

Q.—Was he on the staff of Emergency Hospital? *A.*—Yes.

Q.—Now, would you identify these other papers for us which are in this file, and tell us what they are? *A.*—This is the hospital chart which is taken on the patient after admission into the hospital; these are the doctor's orders.

Q.—As I turn these papers will you kindly look at them, Mrs. Jones, and tell me if they are all parts of the official records of the hospital (turning pages). *A.*—Yes, they are.

Q.—Are there any of the entries on any of the folder documents you see in your handwriting? A.—No, sir.

Q.—Do you know any of the doctors who took care of Miss Abbott at the hospital that night, if there were any? A.—Well, merely Dr. Smith, and according to her chart she was seen after admission by another of the interns.

Q.—Who was that? A.—Dr. Otis Snyder, who apparently took her history.

Q.—Do you know where he is now? A.—In the Army.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. Phillip Smith was an intern? A.—Yes.

Q.—He told you to administer first aid to this patient? A.—Yes.

Q.—And you did it in the way you described? A.—Yes.

Q.—And then you say she was seen by another intern after she was admitted to another room? A.—According to the chart.

Q.—Do the records show whether that doctor gave her any treatment? A.—Nothing further than leaving orders; for further orders.

Q.—What does the record show as to whether she received further treatment; these further orders. A.—That she was put on "Dr. Marbury's service. Remove the pillow splints; elevate leg; apply continuous cold compresses. Regular diet."

Q.—Then does the record show when Dr. Marbury saw her first? A.—No, it doesn't, but obviously it was the next morning because there was a written order by Dr. Marbury for an x-ray on the 27th, which is the following day.

Q.—There is no record that he saw her until the following day? A.—No.

Q.—And as far as you know, no doctor saw her from the time she was admitted to the hospital until the next day, except these two interns? A.—Yes, according to the record.

TESTIMONY OF SAUL HOLTZMAN

DIRECT EXAMINATION

By Mr. Leahy:

Saul Holtzman said he is a practicing physician in Washington. He graduated at George Washington University School of Medicine in 1937 and was an intern at the Garfield Hospital. He identified the records in the case of Miss Sarah Abbott.

Q.—Did you see Miss Abbott in the hospital when she came in? A.—Yes.

Q.—Did you examine her personally? A.—Yes.

Q.—Did you make any order with reference to an x-ray? A.—She was x-rayed before I saw her.

Q.—Is there any record here showing the x-ray? A.—"Report of x-ray?"

Q.—Was there any evidence of any fracture of any of the bones of Miss Abbott? A.—By x-ray?

Q.—Yes. A.—No. It shows there is no evidence of fracture of bones of the upper two thirds of the right leg.

Q.—Did you attend her while she was in the hospital? A.—Yes, I did.

Q.—And were certain entries made upon certain of the records? Will you kindly just tell us what those entries are. I am pointing now to a series of papers. They seem to be identified as the nurses' record. What is that? A.—What is the nurses' record?

Q.—Yes. A.—They are the records a nurse keeps concerning what she does for a patient; the history of a patient while she is in the ward under the supervision of a nurse.

Q.—Did you make a diagnosis of Miss Abbott's case, Doctor? A.—I didn't make a definite diagnosis.

Q.—Did you mark down what you found on examination? A.—Yes.

Q.—Will you kindly tell us and the jury what condition she was in when she came into the Garfield Hospital? A.—From the note it appears she was comfortable; not acutely ill. From what I see on the chart she was able to give me a coherent detail of the fact that she had been admitted to the hospital because—

Mr. Lewin:—(Interposing). I object to that on the ground it is hearsay.

THE COURT:—I don't know whether it is part of the case history.

By Mr. Leahy:

Q.—Is that part of the case history? A.—Yes.

Mr. Lewin:—May we show your Honor what it is, the history he is now about to give us?

THE COURT:—I understood your question to be, to state what he found with reference to the patient's condition.

Mr. Leahy:—That is right.

THE COURT:—Isn't that your question?

Mr. Leahy:—That is right.

THE COURT:—There is nothing in the question that calls for hearsay; that is, if he answers the question, it would exclude anything of hearsay.

Mr. Leahy:—I don't know what the objection is. I will ask this question:

By Mr. Leahy:

Q.—Will you look at the second page here for us, and I will ask you now, if you can refresh your recollection as to just what condition you found her in when she came in the hospital?

Mr. Kellcher:—It has all been covered.

THE COURT:—Possibly so. If there is something he has overlooked, however, he may refresh his recollection.

The Witness:—Well, from the physical examination there wasn't any evidence of a fracture; there was some tenderness of the outer portion of her right leg, but no symptoms of any fracture whatsoever, so far as the physical examination went. The rest of her examination showed it was essentially negative.

By Mr. Leahy:

Q.—When you say "negative," what do you mean? A.—No abnormal findings.

Q.—Now, when a patient comes into the hospital, do you take a history from such patient? A.—Yes.

Q.—Do you make notes of the history as you get it from the patient? A.—We always do.

Q.—And did you make a record of that for the hospital in this case. A.—Yes.

Q.—Is that in accordance with your line of duty? A.—Yes.

Q.—In accordance with the regulations of the hospital? A.—Yes.

Q.—That the records shall contain such a history of the patient? A.—Yes.

Q.—Is this the history? A.—Yes.

Q.—Now, would you tell us from the history of that patient what it was you learned?

Mr. Lewin:—Your Honor, may the witness be instructed to give only facts of medical and physical history, and not hearsay statements about transactions?

THE COURT:—I think perhaps that suggestion is proper.

Mr. Leahy:—That is all I want, the history as he got it to assist him in making a diagnosis.

THE COURT:—It is limited to statements of the patient with reference to her physical condition.

Mr. Leahy:—That is all I want. That is all I care for.

The Witness:—As I recorded it, she was struck by this automobile while crossing the street. She fell to the ground; did not lose consciousness. It is recorded that she was helped to her feet. At that time she complained of pain in her right leg; she was taken to Emergency Hospital. That was the story she told me.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Does the history show how long she remained in Garfield under treatment? A.—Well, she was in Garfield for 21 days, three weeks, from the date of admission to date of discharge.

Q.—And was she in the care of a physician while she was there all that time? A.—You mean a hospital physician?

Q.—Yes. A.—Every patient is.

Q.—Was she in bed most of the time? A.—I presume so.

Mr. Leahy:—Now, if the Court please, I want to offer in evidence the record of the patient at Garfield, hitherto identified as Exhibit No. 1.

Mr. Lewin:—We object to that portion of the record which goes outside any physical history. If that part may be stricken we have no objection.

THE COURT:—I suppose that is satisfactory?

Mr. Leahy.—That is all right.

Mr. Leahy.—I will just read to the jury the treatment which Miss Abbott received at the Garfield Hospital as recorded on the nurse's chart, or nurse's record. I am not going to try to translate some of these abbreviations, but starting in:

"Miss Sara Abbott, residence All States Hotel. She had a mark made by the nurse Miss Kemble of 98.4. Ice cap to right leg. Enema. Sodium luminal. Foot made comfortable by cotton pad. Medication given; slight pain in leg. Doing at intervals; sleeping.

"Friday"—the next day—"refuses medication for discomfort. Quiet. Apparently sleeping. Quiet. A fairly good night."

Next day: "Good results. Apparently sleeping. Sleeping. Quiet."

Next day: "Fairly good day.

"Saturday: Bath given. Evening care. Summary: Appetite fair, good day.

Q.—Do you know Dr. Kreuzburg? *A.*—I do.

Q.—Did you know Miss Tew? *A.*—Not personally; no.

Q.—Did you see her there that evening? *A.*—I did.

Q.—When did you see her there? *A.*—I saw her at the time that Dr. Dugan and myself went up with a release statement for her to sign. I simply accompanied Dr. Dugan out of courtesy to him; he had asked me to go up with him.

Q.—Did you go into Miss Tew's room on that occasion? *A.*—I did.

Q.—Who was in there when you got in there? *A.*—Miss Tew was in bed, and there were a man and a woman and, I believe, at the time I went in, Dr. Selders was there. He either was there when I went into the room or he followed us in.

Q.—Do you recall the conversation now? *A.*—Not in detail; no.

Q.—Can you give us the substance of it? *A.*—Well, the doctor had this release statement which he asked Miss Tew to sign releasing the hospital—the usual form for those things—releasing the hospital of obligation, and my recollection is that she was at first willing to sign the statement; in fact, I think she either had a pen or pencil in her hand, ready to sign it, and these two friends, this man and woman, urged her not to sign it, and Dr. Selders also urged her not to sign it.

Q.—Did they give any reason for that? *A.*—I don't recall any definite reason; no—except that she had had—I believe they said she had had morphine, a hypnotic, and that she was not in her right mind and should not sign it.

Q.—Do you recall anything which Dr. Dugan then said when Miss Tew was advised not to sign it? *A.*—No; I don't recall any statement except "All right." And we left the room.

Q.—Did you return at all after that? *A.*—I don't believe I did. I am sure I did not.

CROSS EXAMINATION

By Mr. Lewin:

Q.—You do not know whether Miss Tew was in proper condition to sign a legal paper or not, do you? *A.*—Well, under ordinary circumstances she should have been able to sign a paper like that, I would say. That would be my opinion.

Q.—Would it depend to some extent on how sick she was and the quantity of morphine that had been given her? *A.*—You could give her enough morphine, certainly, so she would not be in condition.

Q.—You would not advise a patient in a hospital to sign a release if she were in a groggy condition from morphine? *A.*—No, sir; not if she was in a groggy condition.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Is there anything on the chart to indicate how much morphine she had, Doctor? *A.*—There should be.

THE COURT:—I thought it was testified that she was given a quarter of a grain.

Mr. Leahy:—I thought it was, but I do not recall.

The Witness:—Yes.

By Mr. Leahy:

Q.—How much? *A.*—One-quarter grain.

Q.—Does that make a person very groggy? *A.*—Not under ordinary circumstances.

Q.—Did she appear to you to be groggy, Doctor, if she had a pencil ready to sign that statement? *A.*—I didn't think so.

Q.—Was anything said there to the effect that she might remain in the hospital if she wished, as long as she desired to? *A.*—Yes.

Q.—Who made that statement? *A.*—Dr. Dugan made it.

RE-CROSS EXAMINATION

By Mr. Lewin:

Q.—You did not examine the patient, did you? *A.*—No, sir.

Q.—You do not know how much pain she was suffering? *A.*—No, sir.

Q.—Have you any reason to quarrel with Dr. Dugan's statement that he considered her in a groggy condition? *A.*—No; I would not quarrel with it.

TESTIMONY OF MRS. MARGARET JONES

DIRECT EXAMINATION

By Mr. Leahy:

Mrs. Margaret Jones is a registered nurse employed at Emergency Hospital. This position she said she has had since November 1934. She identified the record of Sarah Abbott.

Q.—When was she brought in? *A.*—Jan. 26, 1938.

Q.—Were you on duty that day? *A.*—Yes; I was on duty.

Q.—Do you recall Miss Abbott? *A.*—Yes; I do.

Q.—Did you personally have anything to do at all with the case of Miss Abbott? *A.*—Yes; I did.

Q.—What did you do in connection with it? *A.*—When she was brought into the emergency room by the ambulance I took the record on her, her name and address and what she was in there for; and she stated that she had been struck by an automobile an hour previous to coming into the emergency room, and she complained of injury to her leg.

Q.—Were there doctors in the emergency room at the time? *A.*—Yes.

Q.—Do you recall their names? *A.*—Dr. Phillip Smith was the doctor who took care of Miss Abbott.

Q.—Were you present to see what was done? *A.*—Yes.

Q.—What was done on that occasion? *A.*—The doctor ordered that a pillow splint be put onto the injured leg because of the possibility of fracture of the small bone, and he also ordered an ice-cap to the leg to take care of swelling and relieve pain; and I put that on. He also ordered a medication for the relief of pain, which the patient refused.

Q.—Was there any discussion there at the time about any other doctor coming in? *A.*—Not in my presence.

Q.—Did you see Miss Abbott at all after she was in the emergency room? *A.*—Yes. I helped to give her first aid.

Q.—After first aid was given, was any other treatment given Miss Abbott in the hospital? *A.*—No—well, she was admitted to the hospital proper.

Q.—When you say "she was admitted to the hospital proper," will you just tell us what the custom of that hospital is in admitting patients from the emergency room to the hospital? *A.*—A patient brought in to the emergency room is examined and administered any first aid that seems necessary, and if the condition of the patient seems to warrant hospitalization over a period longer than a few hours, arrangements are made through the admitting office for the admission of that patient into the hospital.

Q.—And was Miss Abbott admitted, through the admitting office, to another part of the hospital? *A.*—Yes; she was admitted to a semiprivate room.

Q.—Did you see her at all while she was in the semiprivate room? *A.*—No; I did not see her after she left the emergency room.

Q.—Are there any entries upon any of those papers which you have before you in your own handwriting? *A.*—Yes; the emergency record.

Q.—That shows she came in at what time? *A.*—At eleven minutes past 10. The ambulance received the call to go to the All-States Hotel at 9:56 p. m. At eleven minutes past 10, which was fifteen minutes later, she was brought in.

Q.—After "Disposition of case" you have some abbreviations. What do those refer to? *A.*—This (indicating) is merely the ambulance record, up here. That means that the patient was brought in.

Q.—Are these entries under the heading "Emergency Department" in your handwriting? *A.*—Yes, sir.

Q.—Her name and address and the date, the time she was brought in, the doctor and the nurse. Who was Miss Patterson? *A.*—That is I.

Q.—Will you translate for us, so that we will understand, just what the diagnosis was at that time? *A.*—The diagnosis given to me by Dr. Smith was hematoma, the left leg.

Q.—What does that mean? *A.*—A bruise with a collection of blood under the skin, which causes discoloration and swelling.

Q.—Now there are some more abbreviations. What are they? *A.*—Possible fracture of the left fibula.

Q.—What is the fibula? *A.*—The small bone in the lower leg.

Q.—Now, the treatment? *A.*—Ice cap to left leg. Refused codeine. A pillow splint was applied.

Q.—What is a pillow splint? *A.*—A pillow splint is a pillow which is put around the leg and tied securely with bandage to immobilize the part.

Q.—Now, are any entries on the reverse of the card in your handwriting? *A.*—The patient's name and address; and the date, and the doctor whose service she was to be admitted on.

Q.—Who was the doctor in whose service she was to be admitted? *A.*—Dr. William Marbury.

Q.—Do you know Dr. Marbury? *A.*—Yes.

Q.—Was he on the staff of Emergency Hospital? *A.*—Yes.

Q.—Now, would you identify these other papers for us which are in this file, and tell us what they are? *A.*—This is the hospital chart which is taken on the patient after admission into the hospital; these are the doctor's orders.

Q.—As I turn these papers will you kindly look at them, Mrs. Jones, and tell me if they are all parts of the official records of the hospital (turning pages). *A.*—Yes, they are.

Q.—Are there any of the entries on any of the folder documents you see in your handwriting? *A.*—No, sir.

Q.—Do you know any of the doctors who took care of Miss Abbott at the hospital that night, if there were any? *A.*—Well, merely Dr. Smith, and according to her chart she was seen after admission by another of the interns.

Q.—Who was that? *A.*—Dr. Otis Snyder, who apparently took her history.

Q.—Do you know where he is now? *A.*—In the Army.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. Phillip Smith was an intern? *A.*—Yes.

Q.—He told you to administer first aid to this patient? *A.*—Yes.

Q.—And you did it in the way you described? *A.*—Yes.

Q.—And then you say she was seen by another intern after she was admitted to another room? *A.*—According to the chart.

Q.—Do the records show whether that doctor gave her any treatment? *A.*—Nothing further than leaving orders; for further orders.

Q.—What does the record show as to whether she received further treatment; these further orders. *A.*—That she was put on "Dr. Marbury's service. Remove the pillow splints; elevate leg; apply continuous cold compresses. Regular diet."

Q.—Then does the record show when Dr. Marbury saw her first? *A.*—No, it doesn't, but obviously it was the next morning because there was a written order by Dr. Marbury for an x-ray on the 27th, which is the following day.

Q.—There is no record that he saw her until the following day? *A.*—No.

Q.—And as far as you know, no doctor saw her from the time she was admitted to the hospital until the next day, except these two interns? *A.*—Yes, according to the record.

TESTIMONY OF SAUL HOLTZMAN

DIRECT EXAMINATION

By Mr. Leahy:

Saul Holtzman said he is a practicing physician in Washington. He graduated at George Washington University School of Medicine in 1937 and was an intern at the Garfield Hospital. He identified the records in the case of Miss Sarah Abbott.

Q.—Did you see Miss Abbott in the hospital when she came in? *A.*—Yes.

Q.—Did you examine her personally? *A.*—Yes.

Q.—Did you make any order with reference to an x-ray? *A.*—She was x-rayed before I saw her.

Q.—Is there any record here showing the x-ray? *A.*—"Report of x-ray?"

Q.—Was there any evidence of any fracture of any of the bones of Miss Abbott? *A.*—By x-ray?

Q.—Yes. *A.*—No. It shows there is no evidence of fracture of bones of the upper two thirds of the right leg.

Q.—Did you attend her while she was in the hospital? *A.*—Yes, I did.

Q.—And were certain entries made upon certain of the records? Will you kindly just tell us what those entries are. I am pointing now to a series of papers. They seem to be identified as the nurses' record. What is that? *A.*—What is the nurses' record?

Q.—Yes. *A.*—They are the records a nurse keeps concerning what she does for a patient; the history of a patient while she is in the ward under the supervision of a nurse.

Q.—Did you make a diagnosis of Miss Abbott's case, Doctor? *A.*—I didn't make a definite diagnosis.

Q.—Did you mark down what you found on examination? *A.*—Yes.

Q.—Will you kindly tell us and the jury what condition she was in when she came into the Garfield Hospital? *A.*—From the note it appears she was comfortable; not acutely ill. From what I see on the chart she was able to give me a coherent detail of the fact that she had been admitted to the hospital because—

Mr. Lewin:—(Interposing). I object to that on the ground it is hearsay.

THE COURT:—I don't know whether it is part of the case history.

By Mr. Leahy:

Q.—Is that part of the case history? *A.*—Yes.

Mr. Lewin:—May we show your Honor what it is, the history he is now about to give us?

THE COURT:—I understood your question to be, to state what he found with reference to the patient's condition.

Mr. Leahy:—That is right.

THE COURT:—Isn't that your question?

Mr. Leahy:—That is right.

THE COURT:—There is nothing in the question that calls for hearsay; that is, if he answers the question, it would exclude anything of hearsay.

Mr. Leahy:—I don't know what the objection is. I will ask this question:

By Mr. Leahy:

Q.—Will you look at the second page here for us, and I will ask you now, if you can refresh your recollection as to just what condition you found her in when she came in the hospital?

Mr. Kellcher:—It has all been covered.

THE COURT:—Possibly so. If there is something he has overlooked, however, he may refresh his recollection.

The Witness:—Well, from the physical examination there wasn't any evidence of a fracture; there was some tenderness of the outer portion of her right leg, but no symptoms of any fracture whatsoever, so far as the physical examination went. The rest of her examination showed it was essentially negative.

By Mr. Leahy:

Q.—When you say "negative," what do you mean? *A.*—No abnormal findings.

Q.—Now, when a patient comes into the hospital, do you take a history from such patient? *A.*—Yes.

Q.—Do you make notes of the history as you get it from the patient? *A.*—We always do.

Q.—And did you make a record of that for the hospital in this case. *A.*—Yes.

Q.—Is that in accordance with your line of duty? *A.*—Yes.

Q.—In accordance with the regulations of the hospital? *A.*—Yes.

Q.—That the records shall contain such a history of the patient? *A.*—Yes.

Q.—Is this the history? *A.*—Yes.

Q.—Now, would you tell us from the history of that patient what it was you learned?

Mr. Lewin:—Your Honor, may the witness be instructed to give only facts of medical and physical history, and not hearsay statements about transactions?

THE COURT:—I think perhaps that suggestion is proper.

Mr. Leahy:—That is all I want, the history as he got it to assist him in making a diagnosis.

THE COURT:—It is limited to statements of the patient with reference to her physical condition.

Mr. Leahy:—That is all I want. That is all I care for.

The Witness:—As I recorded it, she was struck by this automobile while crossing the street. She fell to the ground; did not lose consciousness. It is recorded that she was helped to her feet. At that time she complained of pain in her right leg; she was taken to Emergency Hospital. That was the story she told me.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Does the history show how long she remained in Garfield under treatment? *A.*—Well, she was in Garfield for 21 days, three weeks, from the date of admission to date of discharge.

Q.—And was she in the care of a physician while she was there all that time? *A.*—You mean a hospital physician?

Q.—Yes. *A.*—Every patient is.

Q.—Was she in bed most of the time? *A.*—I presume so.

Mr. Leahy:—Now, if the Court please, I want to offer in evidence the record of the patient at Garfield, hitherto identified as Exhibit No. 1.

Mr. Lewin:—We object to that portion of the record which goes outside any physical history. If that part may be stricken we have no objection.

THE COURT:—I suppose that is satisfactory?

Mr. Leahy.—That is all right.

Mr. Leahy.—I will just read to the jury the treatment which Miss Abbott received at the Garfield Hospital as recorded on the nurse's chart, or nurse's record. I am not going to try to translate some of these abbreviations, but starting in:

"Miss Sara Abbott, residence All States Hotel. She had a mark made by the nurse Miss Kemble of 98.4. Ice cap to right leg. Enema. Sodium luminal. Foot made comfortable by cotton pad. Medication given; slight pain in leg. Dozing at intervals; sleeping.

"Friday"—the next day—"refuses medication for discomfort. Quiet. Apparently sleeping. Quiet. A fairly good night."

Next day: "Good results. Apparently sleeping. Sleeping. Quiet."

Next day: "Fairly good day.

"Saturday: Bath given. Evening care. Summary: Appetite fair, good day.

"Sunday:" Same treatment down through. "Apparently sleeping, appetite good.

"Monday: Quiet. Sleeping. Good day.

"Tuesday: Sleeping, slept well; patient's condition seems good this morning. Appetite good. Reading. Appetite good. Comfortable." These entries are made at different times of the day. "Eight o'clock; resting quietly. Summary: Appetite good; good day.

"Tuesday:" the same. "Sleeping, sleeping, slept well."

Mr. Lewin:—Apparently she got what we all needed.

Mr. Leahy:—Yes; I think I will go there for twenty-one days.

"Comfortable; good day; slept good." Again on "Wednesday: Appetite good. Quiet." And then the final entries: "Quiet and hot water bottle to leg and knee. Sleeping." Summary on third day of February: "Good day. Sleeping, a good night.

"Friday: Sleeping; a good night. Patient's condition seems good this a. m. Reddened area on leg decreasing. Seems softer. Reading; quiet; no complaint." Summary of the day was: "Good day."

"Saturday: Sleeping, again, again, comfortable; appetite good; comfortable." Apparently sleeping continuously through the next day, in same manner. "Summary: Appetite good, sleeping, quiet; resting quietly, sleeping, good day. Sleeping, appetite very good. Patient has two blisters on leg, apparently from heating pad; patient is up in chair."

Mr. Lewin:—When was that?

Mr. Leahy:—That is Feb. 8, 1938.

"Cradle placed on bed and light bulbs inside. Patient comfortable in bed. Appetite good. Reading. Quiet. Appetite good. Transferred to another bed. Apparently comfortable." She is resting quietly at 8 o'clock. "Ten o'clock: Asleep. Patient's condition seems good. Appetite good. Comfortable. Reading. Comfortable" after reading. "Comfortable at 8 o'clock. Quiet at 10 o'clock. 10:45 unable to sleep due to heat from cradle but refused amytal. Good day." Same way Thursday, the 10th. "Appetite good. Quiet. Comfortable. Resting. Reading. A good day.

"Friday. Appetite very good. Reading. Comfortable.

"Saturday, the 12th: Appetite good. Quiet. Sleeping. Summary: Appetite good. Sleeping.

"Sunday, the 13th:" Same entries. "Appetite good; patient up in chair; good day.

"14th: Summary: Comfortable; apparently sleeping well. Sleeping. Good day.

"16th: Comfortable, sleeping: Summary: Appetite good; patient walking around room. Good day, and night.

"17th: Patient up in chair; reading; appetite very good.

"17th: Discharged."

TESTIMONY OF WILLIAM D. MARBURY

DIRECT EXAMINATION

By Mr. Leahy:

Q.—Dr. William D. Marbury said that he had been a practicing physician here in Washington since a little before the last war. He graduated from the University of Virginia in 1909. He had internship first at New England Memorial at Baltimore, and resident two years at Providence in Washington, and then war experience for two years in the British army as an American officer lent to the British army.

Q.—You were across, were you? *A.*—Yes.

Q.—Do you have any specialty? *A.*—Surgery.

Q.—Are you on the staff of any hospital here in Washington? *A.*—Emergency.

Q.—How long have you been on the staff of Emergency? *A.*—Oh, that was, I guess since about 1922.

Q.—What service do you have on the staff? *A.*—I have a surgical service that runs four months, beginning December, and running through December, January, February and March.

Q.—When you say it runs four months, what do you mean? *A.*—That means I am attending surgeon for the inside. In other words, when a case is put on the ward particularly, and when I am notified of that, I make rounds the next day after the patient is brought in, and any time it is an emergency case I make rounds either with the intern or resident and advise as to the disposition of the case and treatment, if it is a surgical case.

Q.—And then you are on the regular staff? *A.*—Yes.

Q.—And is it part of your duties to render that service to any patient that comes to the hospital? *A.*—No, except ward patients, unattached; not if they have their own private doctor.

Q.—But if they are unattached, then it is your duty to do that? *A.*—Yes.

Q.—And that service is rendered gratuitously? *A.*—Not always; some of those cases might turn out to be compensation or liability cases. They are, however, all taken on the gratis status in the beginning.

Q.—Doctor, I am going to show you what hitherto has been identified as Defendants' Exhibit 3, and we want you to examine those papars and tell us whether you recognize them as any records of the hospital. *A.*—They are official records of Emergency Hospital.

Q.—Do you personally recall the name of the patient marked on those records? *A.*—I couldn't say I do; I mean from that time. I don't believe I would know this patient.

Q.—Will you kindly look through the records and tell us, Doctor, whether any treatment, as it is known from a medical standpoint, was rendered to that patient in the Emergency Hospital?

Mr. Lewin:—Are the records in evidence?

Mr. Leahy:—I think they are.

Mr. Lewin:—Then they speak for themselves.

THE COURT:—Yes, but the doctor can explain them better than we can. For that reason I think it is proper to have counsel ask the witness about them.

Mr. Kelleher:—He isn't the doctor that gave her the treatments.

THE COURT:—Well, I understand that was his service. He may answer.

The Witness:—This emergency card, what we call emergency, because made out in the emergency room, shows that the patient was gone over by one of the interns who generally first sees the case when brought in and a pillow splint was ordered, and some codeine was suggested or advised, but the patient did not get the codeine; and then she was sent up to a semiprivate ward.

Q.—Does the record disclose whether any treatment was given or anything done to the patient in the semiprivate ward?

Mr. Kelleher:—I call your Honor's attention to the fact that Miss Jones covered this matter fully.

THE COURT:—She said she didn't see the patient after she left the Emergency.

The Witness:—Apparently she was admitted at 11:30, and at that time she had on a pillow splint which was removed and an ice cap or compress applied. Then the usual things were done. A specimen was taken and sent to the laboratory; she was given codeine grain 1 and aspirin grains 10 and then some luminal. The record shows next morning she had a fairly "good night," but slept rather poorly; compresses; 12 o'clock, fairly comfortable, a. m.

"Transferred to Garfield Hospital."

Q.—What time was she transferred? *A.*—It is here; 2 p. m.

Q.—Does the record disclose that you were called in any capacity with the case? *A.*—It doesn't show that I was called. I think what happened is I was making my rounds the next morning and saw her.

Q.—Do you recall whether you made any recommendation with reference to Miss Abbott? *A.*—I can't be specific on that; I am sure I did, but if you say, "Do you recall?" I can't say I do recall. I simply suggested an x-ray, which would be fairly routine.

Q.—But you did suggest an x-ray. *A.*—Yes.

Q.—Now, Doctor, having seen what the record discloses, as to what was done for Miss Abbott at Emergency after she arrived that evening, may I ask what else could or should have been done for her in your judgment? *A.*—The only thing you could do in a case like that would be to give rest, excluding the possibility of a fracture, and make the patient comfortable.

Q.—Assuming that the leg had been broken, when, with reference to the time of entrance, would the leg be set? *A.*—If that had been a fibula that was broken you probably wouldn't need a set because there are two bones there, and the fibula is the smaller of the two; it is on the outer side of the leg here (indicating). It is a little further back than the big bone and on the outer side. It is smaller, and unless you break the big bone it is not common to have much distress from fibulas.

Q.—Having looked over the record, was there anything withheld in the treatment of Miss Abbott which should have been given to her, in your judgment? *A.*—I don't think so.

Q.—And is it your opinion that the treatment which she received on that occasion was the treatment you would have prescribed for her? *A.*—Yes.

Q.—And was there anything not done for her which should have been done? *A.*—I think of nothing except to have that x-ray. I believe the x-ray was not taken; I am not sure why.

Q.—Will you kindly look at those records once more and see whether or not Miss Abbott left the hospital on your advice or against it? *A.*—I am sure I didn't come in as far as my advice is concerned, unless I have entirely overlooked it. I don't think I was advised as to her going. Well, apparently she signed a release slip, you see.

Q.—And on what date did she sign that release slip? *A.*—Jan. 27, 1938.

Q.—Does it recite whether she left on the advice or against the advice of the physicians there at the hospital? *A.*—She left against the advice of Dr. Marbury, and that looks like my writing, but I don't remember it.

Q.—But you do identify it as your handwriting? *A.*—Yes.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. Marbury, you have no recollection that you were called to attend the person that night, the night she was admitted? *A.*—I was not called.

Q.—And you don't believe you were even called the next morning? *A.*—I don't believe I was called the next morning. They so frequently know I am coming that unless it is an emergency they wouldn't call me.

Q.—At any rate you didn't see her until the next morning? *A.*—No.

Q.—How late in the morning? *A.*—I couldn't tell; it would be around 10 o'clock ordinarily.

Q.—That would be when you were making your rounds? *A.*—Yes.

Q.—Now, the history shows, does it not, that she had not seen any surgeon between the time she was admitted the night before and the time you came around on your call the next morning? *A.*—Unless you could call a surgical intern a surgeon.

Q.—With the exception of the surgical intern? *A.*—Yes.

Q.—Was this a surgical intern? *A.*—He would be in the emergency room.

Q.—Now, the history shows she didn't sleep very well that night. *A.*—The chart says that, yes, sir.

Q.—It says she had a fairly good night. That is the way the doctors talk, not the way the patient feels. Now, it is usual in a case of this character for the patient to suffer from shock and distressed state of mind, is it not? *A.*—I think you have to separate those.

Q.—Will you, then: Isn't it usual to suffer from both, Doctor? *A.*—From the appearances and the history of this case I wouldn't say, if that leg was put at rest, there would be a great deal of suffering.

Q.—This patient was a fairly elderly lady? *A.*—She was 65 (examining document).

Q.—She had been knocked down on the street, brought to your hospital in an ambulance, and she was suffering somewhat, and she wasn't sleeping very well that night, as the history shows; and she remained in Garfield Hospital three weeks after that time, receiving daily treatment, as her history shows. Would you say that the chances are she was suffering from a great deal of mental distress on the night of her admission to the Emergency? *A.*—I wouldn't say necessarily. It would depend somewhat—you hitch it up with staying three weeks at Garfield, but apparently she didn't get much hospital treatment there.

Q.—You say that from hearing the history read this morning? *A.*—Yes, and knowing of the case.

Q.—Now, if a patient like that brought into a hospital late at night asked for her own surgeon, do you think that would be normal? *A.*—Yes.

Q.—And wouldn't the fact that she could have her own surgeon be conducive to giving her a more restful time in the hospital and to a more rapid recovery? *A.*—I can't answer that; it would with some people. Some people do not know their surgeons; they know their medical advisers much better; they do not know who their surgeons will be.

Q.—This lady didn't know how good you were, Doctor; didn't know anything about you? *A.*—She never did know anything about me.

Q.—You had never known her before? *A.*—No.

Q.—But suppose she asked for another doctor, one that she did know about and had confidence in. Don't you think that if she had been able to procure that doctor, such a doctor, she would have been relieved mentally and she would have been much more comfortable? Don't you think so? *A.*—I think she could have had any physician on the courtesy staff of the hospital.

Q.—But suppose she asked for one not on the courtesy staff, one she knew. Don't you think that might have helped her case? *A.*—Your guess is as good as mine; I don't know.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Was that patient what you call an emergency case from a medical standpoint? *A.*—Well, that depends on how you look at an emergency case. She was hit by an automobile, and until you find out something about that you have to consider that as emergency. As it turned out you certainly wouldn't call hers a very grave emergency case.

Q.—And was there anything unusual about her in calling for a doctor who was not on the staff and being told he could not practice in that hospital? *A.*—No, sir.

Q.—How long have you known of that rule to be in effect? *A.*—I couldn't tell you; it has been some years. It has been, I reckon, ten years, or thereabouts. Well, I say that, but actually that was true in Baltimore, that was in 1910; I thought at one time I would stay in Baltimore and practice there, and I made some connections toward getting on the courtesy staff of one of the hospitals, and I couldn't do anything until I could. That was twenty years ago.

Q.—And that is true, as far as you know, throughout the United States? *A.*—There are exceptions in the smaller towns: they have what they call "open hospitals," where anybody can come in and do anything.

Q.—But in the municipal centers or larger hospitals do they have courtesy staffs? *A.*—I think almost universally, and only those on one of the staffs may practice in such hospitals.

RE-CROSS EXAMINATION

By Mr. Lewin:

Q.—Isn't it usual to make exceptions in urgent cases? *A.*—I couldn't tell you that because they have a lot of emergency hospitals, and in a good many hospitals so many are emergency cases; I think that is taken care of by the staff.

Q.—This wasn't the kind of a case that would have called for any extraordinary skill to treat it? *A.*—Oh, I don't think so.

Q.—The presumption would be, would it not, that it could have been satisfactorily treated by any graduate surgeon? *A.*—This particular case would have been all right if it hadn't been treated at all.

Q.—It really would not have been subjecting her to any great risk to permit her to have any doctor she desired, would it? *A.*—Not a bit.

Q.—And it wouldn't have hurt the hospital if the doctor she wanted had been allowed to come in and prescribe medicine for her? *A.*—"Hurt": How do you mean?

Q.—Would it have hurt it in any way, the hospital, to have permitted another doctor not on the staff to come in? *A.*—I think that is covered by a rule. I do not think it is a matter of having a doctor come in that is forbidden, but it is taking the patient as a patient and treating her. To do that you have to be on the courtesy staff.

Q.—Suppose her doctor had been permitted to come there and prescribe for her the ice bags and to buoy her up a little bit, that wouldn't have hurt the hospital, would it?

THE COURT:—That is going into psychology rather than medicine, isn't it?

Mr. Lewin:—Yes, but as to the effect on the patient I thought the doctor might be able to answer.

THE COURT:—I don't think this gentleman is holding himself out as a psychologist.

By Mr. Lewin:

Q.—Of course you are a member of the District Medical Society and the American Medical Association? *A.*—Yes.

Q.—And the Washington Academy of Surgery? *A.*—Yes.

Q.—I think you are president of it? *A.*—Yes.

TESTIMONY OF FREDERICK JOHN CARPENTER

DIRECT EXAMINATION

By Mr. Leahy:

Frederick John Carpenter said he is a practicing physician, associated with the District of Columbia Civil Service, assigned to the reformatory at Lorton, Virginia. He has held that position since July 1, 1938. He graduated from McGill University in 1936 and took an internship at Emergency Hospital from 1936 to 1938.

Q.—And as such intern what were your duties? *A.*—My duties were various, but in general as intern, which represented my duties the first year, we were to receive each patient; to write a history, do a physical examination, engage in the preparation of the hospital record and also to assist otherwise to equip us in being capable of gaining something from our consultations with the staff members who got into the case thereafter.

Q.—Do you recall the case of a patient whose name appears in the records here identified, Defendants' Exhibit No. 3? Will you kindly look those over and see if they refresh your recollection as to the case? *A.*—Yes, I have some memory of this case.

Q.—Were you on duty when that patient was brought in to the hospital? *A.*—I may have been on duty when she was brought in; I didn't see her on admission.

Q.—Did you see her at any time while she was in the hospital? *A.*—Yes.

Q.—Where did you see her? *A.*—On the fourth floor in the hospital, in the room to which she was assigned, just prior to her going to another hospital.

Q.—Will you tell us the name of the patient? *A.*—Miss Sara Abbott.

Q.—At that time did you prescribe any treatment for her at all? *A.*—No, sir.

Q.—Did you observe what treatment had been accorded to her there in the room? *A.*—I observed directly and through the records what treatment had been accorded.

Q.—And at that time you saw her, or was that just before she was transferred to Garfield? *A.*—Yes.

Q.—Do you know whether any x-ray had been suggested for her? *A.*—It is my belief that—incidentally, I recall now that I did see her for a brief moment before this last occasion, and that on the occasion when making rounds with Dr. Marbury, who was the staff surgeon on orthopedic duty at that time; I was assigned as assistant resident orthopedic intern.

Q.—What is that? *A.*—We were concerned mostly with diseases and injuries to bones and joints.

Q.—Do you recall what time it was that you made those rounds with Dr. Marbury? *A.*—My impression is it was something between 11 and 12 in the morning; that may be a little bit off one way or the other.

Q.—Do you recall whether at that time when you saw Miss Abbott with Dr. Marbury, whether you made any observation or diagnosis as to what she was suffering from? *A.*—My observation was purely that of an observer. I didn't examine her, but Dr. Marbury did look her over, and at that time I am almost sure he suggested an x-ray be taken in order to determine whether or not a fracture had occurred in the region of her left ankle.

Q.—Do you know whether the x-ray was taken? *A.*—I am certain it was not, because she left before it could be arranged.

Q.—You say you read over her chart of the treatment accorded to her? *A.*—Yes.

Q.—Will you refresh your recollection by looking over the chart again to see the treatment that was given to her, and tell us whether in your judgment the treatment which she received in the hospital that night was the proper treatment, considering what she was suffering from?

Mr. Lewin:—I have no serious objection to this question, but it has been covered. It has been covered; perhaps this is corroborative. I don't think there is any question about it; that she received this treatment.

Mr. Leahy:—Well, if it is admitted that everything was done which should have been done for her, that will be satisfactory.

Mr. Lewin:—I cannot concede that; I am not an expert.

THE COURT:—If you know the treatment which this woman received; and you saw her, I think they have the right to go into that. You may answer.

The Witness:—This could be easily taken in stages. First of all, the Emergency Hospital, emergency room note says that she was given an ice cap to her left leg; she was brought in with a pillow splint applied; and that she had refused codeine by hypo, that medication. Actually in these three things you find the only treatment that could be given to any one even if they had a true fracture of the ankle. She had been brought, transported there properly, properly splinted and treated, at least by offer of a sedative, a narcotic sedative, which she had refused, and ice had been applied in order to reduce any swelling present or which might later appear. Then she was transferred to the floor—Shall I read the order and note on it?

"1. First Dr. Marbury service." Which is entirely proper, since he was the orthopedic surgeon of that month.

"Remove the pillow splint—elevate leg on pillow—apply continuous cold compresses." That would be perfectly proper because it would be sure to get the ice to the leg that way and there would be no further need to transfer her because she was in bed; hence no further need to move the leg. No further damage could be done even if it were a fracture. "Apply continuous cold compresses." That would continue to keep down the pain and swelling, and prevent further bleeding, as indicated by the bruises, hematoma. An order was left for one grain of codeine for relief of pain "as necessary." That is absolutely all any one could offer any one with an injury such as she appeared to have. She was not in severe enough pain to require a hypodermic at that time. In fact she had refused a hypo already, and the doctor thought she might accept something by mouth. That was a consideration of her own choice to make. She was assigned to a regular diet; there was no evidence of shock or nausea or anything of that kind to require special diet. During that night it was discovered she could not sleep, apparently, and an order for a nembutal, which is a barbital sedative, commonly used to induce sleep, was made; and an order was left on the 27th by Dr. Marbury so that an x-ray of the left lower leg, upper one half, be taken. There is even an indication here that an attempt was made to spare expense—only the upper one half was to be taken. That was the only way we could definitely rule out a fracture.

In my opinion everything that could possibly be done was done for the patient.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Certain medicine was prescribed which she refused to take, you say? *A.*—Yes.

Q.—Isn't it true that a patient is more likely to refuse to take medication from a doctor in whom she has little or no confidence, because she does not know him, than she would from a doctor whom she has requested and whom she has confidence in? *A.*—That is likely.

Q.—So, in all probability, if that patient had been allowed to have her own doctor in whom she had confidence and he had prescribed that medication for her, she would have taken that medicine that you say was proper for her and been more comfortable?

Mr. Leahy:—Wait a minute. Isn't that a bit argumentative?

THE COURT:—I think so.

. . . . . .

Counsel for both sides approached the bench and conferred with the Court.

Mr. Leahy:—I will just finish this hospital phase by reading this document, this notation here:

"Shortly after Miss Tew was admitted and while on the way into the operating room, about 7: 45 a. m., Dr. Selders stopped me and said: 'I want to make a midline incision. I think there is something in the pelvis.' To this I replied, 'O. K.' and left immediately, as there was another operation."

TESTIMONY OF WILLIAM DICK CUTTER

DIRECT EXAMINATION

By Mr. Leahy:

William D. Cutter, Chicago, said he has been Secretary of the Council on Medical Education and Hospitals of the American Medical Association for more than nine years. He graduated from Yale in 1899 and from Johns Hopkins in 1905. Following graduation from Johns Hopkins he took an internship at the French Hospital in New York City from 1905 to 1906. He engaged in active practice in Bisbee, Ariz., 1906 to 1910. He taught at the University of Georgia, 1911 to 1919. He was secretary of the board of medical examiners in the New York Department of Education from 1919 to 1923. He was with New York Postgraduate School of Medicine from 1923 to 1928 as dean of the medical school. Also he was dean of the University of Southern California from 1928 to 1931.

Q.—And was it in the year 1931 that you assumed, took over your position as secretary of the medical association? *A.*—Yes.

Q.—And would you give us the official title of the bureau of which you are secretary? *A.*—The Council on Medical Education and Hospitals of the American Medical Association.

Q.—When was that council formed? *A.*—1904.

Q.—Do you recall in what manner it was formed? *A.*—It was formed by a resolution of the House of Delegates of our association as a standing committee of the House of Delegates, meaning that it was responsible to the House of Delegates and to no one else.

Q.—Then is your council responsible to the Board of Trustees of the American Medical Association? *A.*—No, sir, except with respect to its budget. We have to get our budget from the Board of Trustees, but in all other respects we report directly to the House of Delegates.

Q.—Without going into too much detail, what are the functions of this council, of which you are secretary? *A.*—The function of the council is to examine and study medical schools and hospitals in order to determine what are proper standards of performance in the field of medical education and hospital education, and having formulated reasonable standards of performance with respect to medical education these are submitted to the House of Delegates for ratification, and then when the standard is set up we again examine these institutions to see whether they fully conform to the standard. If so, their names are published on our list. These examinations are made only upon the request of the institution who wishes to be included in our list.

Q.—Now, you have mentioned the House of Delegates. Without going into it in great detail, who sits on or in this House of Delegates in the American Medical Association? *A.*—Each state medical society chooses a certain number of

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delegates in proportion to the number of members, just exactly as members of the House of Congress are selected on the basis of population, and those delegates meet once a year, and they comprise the legislative force of the American Medical Association.

Q.—You say each state society. Is there a state society in each state? *A.*—Yes.

Q.—So that all forty-eight states of the Union are represented? *A.*—Yes, and also the District of Columbia.

Q.—You might tell us how many are on this council. *A.*—There are seven members of the council.

Q.—Who is chairman? *A.*—Dr. Ray Lyman Wilbur, President of Stanford University.

Q.—Is he the same Ray Lyman Wilbur whose name we heard mentioned in connection with this Committee on the Costs of Medical Care? *A.*—Yes.

Q.—How long has he been the chairman of that? *A.*—I am not exactly sure of the date because it was before I was connected with it. I think it was 1927, and he is still chairman.

Q.—With reference to the composition of the remaining members of the council, where do the members come from? *A.*—One lives in Boston, one in New York City, one in Syracuse, one in Lexington, Kentucky, one in New Orleans, and one in Des Moines, Iowa.

Q.—Are they all practicing physicians? *A.*—Dr. Wilbur is not a practicing physician, but all the others are.

Q.—And men of experience? *A.*—Yes.

Q.—Would you tell about the average age of the members of the council? *A.*—Well, I should think the average age was between 50 and 60, perhaps 55; perhaps a little nearer to 60.

Q.—Since you have been connected with this Council on Medical Education, so far as the medical schools are concerned and the standards of hospitals, what has been the principal work of the Council? *A.*—The visitation of the schools and hospitals in response to such inquiries of theirs for examination.

Q.—With what end in view? *A.*—To help them to qualify for inclusion in the list which we publish.

Q.—And you would prescribe standards, do you, to which you wish them to adhere? *A.*—Yes.

Q.—Do you recall how many medical schools there are now on the approved list? *A.*—Sixty-six medical schools in the United States that offer the whole of the four-year course; ten schools that give only the first two years, and one school that gives only the last two years of the medical course.

Q.—And do you recall how many hospitals have asked you to investigate and examine them which have received your approval? *A.*—There are something over 6,000 hospitals which are included in our directory of hospitals, which we call a register. Of those 6,000, there are 1,000 who have asked for specific approval of their educational pretraining; of the training of interns and residents.

Q.—Do you keep a separate register of the hospitals merely approved for registration and those approved for intern training? *A.*—Both groups of hospitals appear in the register, but we have a separate list for those where residency and training is provided for the use of doctors seeking opportunities of this sort.

Q.—Doctor, what is the distinction between the ordinary hospital which appears upon your register of private hospitals and the hospital which is approved for intern training? *A.*—The second type of training voluntarily undertakes a responsibility for teaching physicians; the other doesn't take that kind of responsibility and, therefore, it is not approved as having a satisfactory course of training, because it doesn't pretend to have it; doesn't seek to do that kind of work.

Q.—When you say it seeks to train interns, what method is approved in giving instruction to young interns? *A.*—The method of instructing interns and residents is essentially an apprenticeship. These young doctors work under the direction of older and more experienced physicians. They aid and assist them in the examination of patients, in the treatment of patients, especially in the discussion of the diagnosis, the examination of the patient by every possible means, and then the analysis of that evidence in order to determine what is really the cause of the patient's trouble; and then it is discussed with them and there is determined the best method of treatment. That is done with daily supervision of the attending staff and instruction given by the attending staff.

Q.—Is there any library prescribed by your council for those institutions which seek approval for intern and resident training? *A.*—Yes; one of the necessary things for approval of any institution is that the hospital should have a library in which these interns may have an opportunity to pursue their studies and to which they may have access to reference books.

Q.—Again, how many hospitals have sought the approval of your council for intern training and received it? *A.*—There are 700 hospitals approved for intern training. There are perhaps something over 300 or 400 more which have approval for training of residents in specialties, but the total number of both groups is only about 1,000.

Q.—You have used the word "resident": What is the distinction between an intern and resident physician? *A.*—An intern is a man who has just completed his undergraduate course and goes from there into a hospital to gain this type of experience. After he has served an internship, which might be a year, year and a half, or two years, if he desires further training and experience then he is classified in the hospital as a resident, and those residents are usually assigned to specific departments of the hospital, such as medicine, orthopedics, obstetrics, and so on.

Q.—In the case of a hospital, Doctor, which is a specialty hospital, would that come within the prescribed purpose of intern training, or just for resident training? *A.*—Just for residency, if it is a special hospital.

Q.—Let us bring it down to the District of Columbia. How many hospitals in the District of Columbia have been approved for intern training? *A.*—For intern training? Do you mean, all of the hospitals, or just the private hospitals?

Q.—All of the hospitals. *A.*—Without looking at my notes I cannot speak exactly on that.

Q.—Have you any memorandum which shows that? *A.*—Yes, sir. There are 19 hospitals in the District of Columbia, and of those—may I speak now of the year 1937, or would you prefer the figures for the current year?

Q.—Make it 1937. *A.*—In 1937 there were twelve hospitals approved for intern training in the District of Columbia.

Q.—Were there some others which were approved only for resident training? *A.*—There were.

Q.—How many? *A.*—I think there were only two, the Columbia Hospital for Women, and the Episcopal Hospital for Eye, Ear and Throat Diseases.

Q.—Can you tell us why the Episcopal Eye, Ear and Throat Hospital could not be approved for general intern training? *A.*—Because they do not have a general service. They do not have any patients there except those who are suffering from diseases of the eye, ear, nose and throat.

Q.—Why would not the Columbia Hospital for Women be approved for general intern training? *A.*—Because they only render service to women either in obstetrical or gynecological cases.

Q.—Would either or both of those hospitals be approved for residencies? *A.*—Yes.

Q.—What type of residencies? *A.*—In the case of Columbia Hospital, they might have been approved either for residency in obstetrics or residency in gynecology, or for a combined residency covering both fields. At the Episcopal Eye, Ear, Nose and Throat Hospital they might have had approval for a residency in ophthalmology, that is, diseases of the eye; or they might have had approval for aurolaryngology, which means diseases of the ear and throat, or it may have been approved covering both fields, according to the way in which their service was set up.

Q.—You were stating that they might have. May I ask you if they did have approval for residencies? *A* (after referring to memoranda).—Episcopal Eye, Ear and Throat Hospital was approved for a residency in ophthalmology; and that was all.

Q.—You stated that approval was requested by the hospitals of the Council. What steps did your council or does your council take after receiving a request from a hospital for approval by the Council? *A.*—The first step is to send to the hospital a printed form calling for certain information about the size of the hospital, the ownership, the character of service which it renders, and its facilities, laboratory, x-ray, library, and so forth and so on; and that printed form which constitutes an application for approval is completed by the hospital and sent back to us and a card is made out indicating that such a hospital has requested approval for such and such services, and as soon as the doctors of our staff can get around to it they make a visit to that hospital and check up on all of the information which has been submitted, and they make further investigations about all matters which can only be determined by a personal visit, and when they return to the office they write a report concerning their observations in that hospital. A copy of this report is always sent to the hospital with a request for any comments or corrections. At the next meeting of the Council the report, together with the recommendation of the staff, is submitted to the Council and, after consideration of the facts, the Council acts to either give or withhold approval.

Q.—Does the Council maintain a staff of investigators to go around and make examinations of hospitals? *A.*—Yes, sir.

Q.—Also of medical schools? *A.*—Yes, sir.

Q.—Is there any difference between the method pursued in the examination of a hospital and of a medical school? *A.*—Well, there is some difference, because of the difference in the character of the institution. The program of a medical school is very complicated and covers a period of four years. The program of a hospital for intern training covers only one year, and it is relatively simple because it is, as I have told you, of the apprenticeship type; so that the examination of a medical school takes more time than the examination of a hospital.

Q.—How many investigators does the Council maintain? *A.*—We have three men who do nothing but visit hospitals, and I myself devote a good deal of time to the visitation of medical schools. A couple of years ago I had an assistant in that field, but at the present time I am alone.

Q.—How thorough an investigation is made before approval is granted? *A.*—We have these standards which have been formulated by the Council known as the "Essentials" and which have been ratified by our House of Delegates. The examination of the hospital is made to determine whether the hospital fulfils all of the standards which have been so expressed. In addition to that, to determine if there are any other factors which have a bearing upon the suitability of the educational program of the hospital, to find out whether they have a sufficient number of patients to give adequate instruction in the various fields which they assume to cover; to find out whether the records are properly kept, to see that the work is being thoroughly done, both with respect to the care of the patients and with respect to the education of the interns.

Q.—What has been the effect, Doctor, of the Council's promulgation of these standards with reference to medical schools and hospitals? *A.*—When the Council was created in 1904 we had a great many very poor medical schools. There was no kind of supervision over them; and the real reason for the formation of this Council was to exercise some sort of supervision over the medical schools by getting at the facts and making the facts known. And the same thing has been true with regard to hospitals. The examination of hospitals and the formulation of definite standards for internships and letting the prospective interns know which are the hospitals that conform to those standards, which has encouraged and stimulated the hospitals to improve the character of their services.

Q.—Has your Council any authority other than to collect data and information and publish the same for educational purposes? *A.*—None whatever.

Q.—And you as secretary perform what functions for the Council? *A.*—I direct the work of the office and I personally make the investigations of medical schools and, having collected the information, I submit it to the Council for their decision, and also prepare from time to time these various lists which are published showing the standing of such institutions.

Q.—Does the Council publish any factual data or any publications of any kind? *A.*—Yes, sir; it does.

Q.—What is the field in which they publish them? *A.*—It is related to medical education and hospitals. We publish once each year what we call the Educational number of THE JOURNAL, which is devoted very largely to a summary of the statistics and factual data with regard to the medical schools of the country. We publish also a little reprint known as the Essentials of Medical Schools, which constitutes the basis on which medical schools are judged, as to whether they should be included in this list or not.

Similarly, we publish once each year what is called the Hospital number of THE JOURNAL, which is devoted very largely to giving facts and figures with regard to hospital facilities throughout the United States; and we publish also these little leaflets (indicating) which give the standards applied to the registration of hospitals, to the approval for internships of hospitals and to the approval of hospitals for residencies in the medical specialties.

Q.—Do you publish at any time a register of hospitals? *A.*—Yes, sir. That is included in this Hospital number which appears annually.

Q.—Is that register which appears annually distinct from any publication of a list of hospitals approved for intern training and resident training? *A.*—Not distinct from them, because in the register the hospitals which are approved for intern training are included, and they are indicated by a star following the name of the hospital. Hospitals which are approved for the training of residents are indicated by a cross, like a plus mark, following the name of the hospital. Hospitals which are approved for both internships and residencies will have both the star and the cross following the name of the hospital.

Q.—For instance, in the District of Columbia, would the names of hospitals which have received approval of the character you just described appear on that register? *A.*—Yes, sir.

Q.—By the way, do you examine other hospitals in the District of Columbia than the private hospitals—Walter Reed, and the one on Wisconsin Aveme, the name of which has just slipped out of my mind? *A.*—Certainly, we examine any hospital that applies for approval for a program of training interns or residents.

Q.—Have Government hospitals also applied to you? *A.*—Exactly; the Naval Hospital, Walter Reed Hospital, Gallinger Hospital, Veterans' Hospital.

Q.—You stated that you also published Essentials of a Registered Hospital. I am going to show you three pamphlets and ask you if you can identify those, Doctor. *A.*—Yes. I identify this (indicating) as the Essentials of a Registered Hospital, prepared by the Council on Medical Education and Hospitals of the American Medical Association. The next is Essentials in a Hospital approved for Training Interns, and the third, Essentials of Approved Residencies and Fellowships.

Mr. Leahy:—I offer them in evidence, but I shall not read them to the jury at this time.

THE COURT:—Unless there is objection, they are admitted.

Mr. Lewin:—We have no objection, your Honor.

By Mr. Leahy:

Q.—Do you recall a resolution called the Mundt Resolution? *A.*—Yes, sir; I do.

Q.—Do you recall when that was passed? *A.*—In 1934.

Q.—We have it here in one of the exhibits which was introduced. You recall that, do you? *A.*—Yes, sir.

Q.—Following the passage of the Mundt Resolution was anything done by your Council with reference to it? *A.*—Yes, sir.

Q.—Why did your Council take any action in regard to the Mundt Resolution? *A.*—Because the resolution itself stated that the House of Delegates requested the Council on Medical Education and Hospitals to take this matter under advisement.

Q.—Did your Council so take the matter under advisement? *A.*—It did.

Q.—When I say "your Council" I refer to the various members whom you have mentioned. *A.*—Yes, sir.

Q.—How frequently does the Council meet? *A.*—Usually three times a year; sometimes four.

Q.—Where does it meet when it meets? *A.*—Well, in the spring of the year it meets wherever the American Medical Association is meeting, which is in different parts of the country. In February it always meets in Chicago, because they hold a Congress on Medical Education at that time. Other meetings are usually held in Chicago, but sometimes held in New York or Washington or Denver or some place that may for some special reason happen to be more convenient.

Q.—You spoke of the Congress on Medical Education. What did you refer to when you used that phrase? *A.*—Very early in the history of the Council it was felt desirable to give more information to the public and to the profession with regard to the problems of medical education; and so a meeting was held in Chicago to which all interested persons were invited, and at that meeting, or at that series of meetings, papers are read about various problems connected with medical education, and there is more or less discussion of those papers; and because the question of medical education is so closely related to the question of medical licensure, the various state licensing boards are invited to participate with us in the conduct of that congress; and the official title of it is the "Congress on Medical Education and Licensure."

Q.—How frequently does it meet? *A.*—Once a year.

Q.—How wide an invitation is sent out for attendance at the conference? *A.*—I think we send out 3,000 to 4,000 invitations. We send these to anybody that we think may be interested in having a copy of the program, even though we know that a great many of them will not be able to attend.

Q.—How large an attendance is there usually at the Congress? *A.*—It is hard to know exactly, because not all of the people who come to the Congress will register. We try to persuade them to register and give us their names; but we have had anywhere from 300 to 400 people register and there must have been at least a couple of hundred more in attendance who did not register.

Q.—Is that merely an approved educational program of your Council? *A.*—Exactly.

Q.—To return, now, to the Mundt Resolution, what action was first taken by your Council with reference to it? *A.*—The Council met in October of 1934. This resolution was presented, and the Council voted to send copies of this resolution to all hospitals approved for intern training, so that they might know what was the sentiment of the House of Delegates.

Q.—Did the Mundt Resolution relate only to hospitals for intern training? *A.*—I think that is what it says.

THE COURT:—May I make a suggestion? I think perhaps it would be well to refresh our minds about this Mundt Resolution; I mean, the terms of it.

Mr. Leahy:—It is in this paper, your Honor (indicating).

The Witness:—It refers only to intern hospitals.

By Mr. Leahy:

Q.—Immediately following the meeting of the Council which you have just told us was held in October of 1934, what did the Council request you as its secretary to do at that time, if it did request you to do anything? *A.*—It instructed me to send a copy of this resolution to all of the intern hospitals.

Q.—Did you do so? *A.*—I did.

Q.—I showed you a paper just now. I will ask you if that is one of the letters which was sent in pursuance of that action on the part of the Council? *A.*—It is.

Q.—And you so identify it, do you? *A.*—Yes.

Q.—It bears what date? *A.*—Dec. 31, 1934.

Mr. Leahy:—I offer it in evidence.

Mr. Kelleher:—You are offering this only for point 2 in this letter?

Mr. Leahy:—I am offering the entire letter to show how the matter was brought to the attention of the hospitals.

Mr. Kelleher:—The letter contains two points. The first point does not deal with this subject at all. We have no objection to point 2.

Mr. Leahy:—It is offered not merely for the fact that it contains the Mundt Resolution, but it is offered in order to show the manner in which the hospitals were notified about the Mundt Resolution.

THE COURT:—Are you formally objecting to it?

Mr. Kelleher:—To point 1, yes, your Honor, as being immaterial.

THE COURT:—I think it may be received. Objection overruled.

By Mr. Leahy:

Q.—How many hospitals were circulated or were advised of the Mundt Resolution on Dec. 31, 1934? *A.*—About 700.

Q.—Was any attempt made by your Council to send this letter to any other hospital than one which had been approved for intern training? *A.*—No, sir.

DEFENDANTS' EXHIBIT 14

Mr. Leahy:—Ladies and gentlemen, this is on the letterhead of the American Medical Association, 535 North Dearborn Street, Chicago, Council on Medical Education and Hospitals, and it shows the names of the following doctors:

"Ray Lyman Wilbur
"Reginald Fitz
"Merritte W. Ireland
"Charles H. Humiston
"Frederick A. Washburn
"J. H. Musser
"Fred Moore
"William D. Cutter"

The letter reads as follows:

"(1) Your attention is called to the fact that in recent years applicants who have been unsuccessful in gaining admission to American medical schools have migrated in large numbers to Europe. At the present time those who have graduated are returning to the United States and are seeking appointment as interns. The 'Essentials in a Hospital Approved for Interns,' ratified by the House of Delegates of the American Medical Association, require that interns be selected from among the graduates of schools approved by this Council. Since the Council has never inspected or classified schools outside of the United States and Canada, it is evident that European schools do not fall within this category.

"Furthermore, for economic reasons there is just now a shortage of internships, and some of the graduates of Class A schools have been unable to find positions. In order that our own students may not be deprived of an opportunity to complete their education by serving their fifth year as interns, it is necessary that hospitals approved by this Council limit their choice of interns to graduates of recognized American schools whenever such are available.

"However, should suitable graduates of Class A schools be unobtainable, the standing of a hospital will not be jeopardized by the appointment of a graduate of a European university, provided the hospital assumes full responsibility for determining the identity of the candidate, the authenticity of his credentials, and that his professional qualifications are not less than those of the graduates of our own schools. It is recommended that in order to protect themselves, such candidates be required to have passed the licensing examination in one our states or Parts I and II of the National Board of Medical Examiners.

"(2) In hospitals approved for the training of interns the professional standing of the members of the staff is a matter of importance. For your information I submit a resolution dealing with this subject, adopted at Cleveland last June:

"'*Resolved*, That it is the opinion of the House of Delegates of the American Medical Association that physicians on the staffs of hospitals approved for intern training by the Council on Medical Education and Hospitals be limited to members in good standing of their local county medical societies and that the House of Delegates request the Council on Medical Education and Hospitals to take this under advisement.'

"Sincerely yours"——

And it is signed "William D. Cutter."

By Mr. Leahy:

Q.—That was the Mundt Resolution which I just read, was it not, Doctor? *A.*—Yes, sir.

Q.—Following the word "Resolved"? *A.*—Yes, sir.

Q.—You refer in your letter of December 31 to the "Essentials in a Hospital Approved for Interns, ratified by the House of Delegates of the American Medical Association." I show you three exhibits numbered 11, 12 and 13. Does that phrase in your letter which I have just mentioned refer to any one of those three pamphlets? *A.*—To Exhibit 12.

Q.—When you brought this resolution to the attention of the hospitals, Doctor, what was there on the point which you have identified as "1" in your letter, "Shortage of Internships"? *A.*—The reason for that shortage was that during the years of the depression, 1934, for example, a great many men who had served an internship were reluctant to go out into practice, and they would ask the hospital if they could not stay on for a second year; and many of them did, maybe two or maybe three years. But that meant that there were not the normal number of vacancies to take care of the graduates of medical schools, and men graduating found it very difficult to secure internships; and in order that they might not be prevented from getting that opportunity to complete their education through the selection of these graduates of foreign schools, we sent this notice to the hospitals telling them that graduates of our own schools should be appointed wherever suitable candidates were available, and graduates of foreign schools should not be appointed unless they had found that suitable candidates from our own schools were not obtainable.

Q.—You mentioned in your letter Class A medical schools. To what do you refer? *A.*—When the Council made its first study of medical schools and published its first list of medical schools, the medical schools were divided into three groups designated as Classes A, B and C.

MARCH 10—AFTERNOON

TESTIMONY OF WILLIAM DICK CUTTER

DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Q.—Doctor, I think just before luncheon I had asked you about the phrase which you used in the letter of December 31 notifying the hospitals: Now, what did you mean by "Class A medical schools"? *A.*—When the Council made its first classification of medical schools back in 1909 they were divided into three groups: Class A were considered acceptable; Class B those which were considered not acceptable but which might become so; and Class C which were hopeless and which we considered could not qualify. Now, those three—A, B and C—were continued until about 1928, and at that time all the schools which had been placed in Class B had either closed, merged with other schools, or raised their standards so as to become listed as Class A. There were no others in Class B. The number in Class C was very small and they were schools which were very, very bad; and the Council decided there was no use in giving further publicity to these bad schools, so they discontinued the classification as Class C and they frequently used, instead of Class A, the term "Approved School." That term is synonymous with Class A and they have been used since interchangeably.

Q.—Now, following the letter of Dec. 31, 1934, did you ever direct any other letter to the hospitals which were approved for intern training under the Mundt Resolution? *A.*—Not to all hospitals at any one time, but when we had occasion to inspect a hospital to determine its qualifications and sent them a report we made it a routine practice to refer to this resolution so that they might have it as a matter of information.

Q.—Did there come a time, Doctor, when the Council on Medical Education and Hospitals made an examination of hospitals in the District of Columbia? *A.*—Yes.

Q.—How many hospitals at that time were examined in the District of Columbia? *A.*—You refer to 1937?

Q.—1937. *A.*—Five hospitals were visited in Washington during that year.

Q.—Before that year had all the private hospitals in Washington been examined at some time? *A.*—Well, very nearly; I couldn't be certain every one had. Some might have been put on the approved list a long time before I was connected with the Council.

Q.—What was the practice with reference to examining hospitals as to the time intervening between the application and examination? *A.*—It is variable, because it depends on the

demands which are made upon us for immediate inspection with the view to approval. Now, reexaminations of hospitals from time to time have to be fitted in with the itineraries planned by our inspectors in order to cover the requests constantly received, so that if we are called upon to go to St. Louis to visit two or three hospitals we would make two or three others so that we would not have to double back on our tracks and go to St. Louis right away.

Q.—Do you recall the occasion which induced the investigations and examination of the five hospitals in Washington in 1937? *A.*—I do.

Q.—And what was that occasion? *A.*—A letter was received by me from one of the professors on the faculty of Georgetown University, a Dr. Cahill, and he said he wanted to secure the Council's approval for two residencies in surgery: one at Georgetown and one at Providence. That request was dated Feb. 3, 1937.

Q.—I now show you a letter dated Feb. 3, 1937, from Dr. Cahill, addressed to "Dr. Ray Lyman Wilbur, Chairman, Council on Medical Education and Hospitals, American Medical Association," and ask you if this is the letter. *A.*—That is the letter.

Mr. Leahy:—I ask that it be received in evidence.

(After discussion the letters were received in evidence.)

Mr. Leahy:—Exhibit 16 is a letter of Feb. 3, 1937, which is answered by a letter of Feb. 10, 1937, and Exhibit 15 is an original letter from Dr. Cahill to Dr. Carl M. Peterson, Council on Medical Education and Hospitals, to which is attached an application containing certain information, which application blank was supplied by the Council on Medical Education and Hospitals.

I will first read Defendants' Exhibit 16. It is on the letterhead of Dr. James A. Cahill Jr., 2607 Connecticut Avenue, Washington, D. C., and is dated Feb. 3, 1937. It is addressed to Dr. Ray Lyman Wilbur, Chairman, Council on Medical Education and Hospitals, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

"Dear Dr. Wilbur:

"As Director of the Department of Surgery at the Georgetown University School of Medicine, I am writing to make a formal application regarding the Residency in Surgery for two hospitals which are affiliated with the Georgetown University School of Medicine.

"The Surgical Department utilizes four hospitals, two of them, namely, Emergency and Gallinger, are on the approved list for a Residency in Surgery. However, I am most desirous of having the approval of the American Medical Association for the resident position in surgery at both the Georgetown University Hospital and Providence Hospital. At each of these hospitals, a resident surgeon is on duty and his appointment is for one year. However, we are anticipating prolonging this term to a two year one. At Georgetown the resident is under the direct supervision of the Staff and therefore receives adequate instruction. This is also true at Providence Hospital. There is also a large amount of clinical work which has increased considerably during the past few years. Would you be kind enough to place this before the Committee. If any further information is desired, I will be glad to furnish it upon your request.

"Very respectfully,
"James A. Cahill Jr.,
"Director of Department of Surgery, Georgetown University School of Medicine."

To which Dr. Peterson wrote a reply under date of Feb. 10, 1937.

By Mr. Leahy:

Q.—Doctor, I notice this carries the initials "C. M. P." Whose initials are they? *A.*—Dr. Peterson's.

Q.—Who is Dr. Peterson? *A.*—He was one of our inspectors, particularly charged with the work in connection with the intern hospitals.

Mr. Leahy:—I will read this letter. It is addressed to Dr. James A. Cahill Jr., Director of Department of Surgery, Georgetown University School of Medicine, Washington, D. C.:

"Dear Dr. Cahill:

"Your recent letter to Dr. Ray Lyman Wilbur has been referred to me for reply.

"Approval of residencies by the Council is based in regular application, convenient forms for which are enclosed. Since two institutions are involved, it will be necessary to submit application for each and it will be much preferred if you submit the information yourself as responsible for the type of training which these residents will receive.

"Ordinarily, upon receipt of satisfactory information, a visit is arranged by a member of the Council's staff in order that all details of the teaching program may be discussed.

"The duplicate copies also enclosed are meant for the files of the hospitals under consideration.

"Very truly yours,"

Then on March 18, 1937, and I am now reading from Defendants' Exhibit 15, there came another letter from James A. Cahill Jr., Director of the Department of Surgery, Georgetown University School of Medicine, addressed to Dr. Carl M. Peterson, Council on Medical Education and Hospitals, American Medical Association, 535 North Dearborn Street, Chicago, Illinois:

"Dear Dr. Peterson:

"As you suggested, I am forwarding the applications for approval of the Surgical Residency for both the Georgetown University Hospital and Providence Hospital of Washington, D. C.

"I will be only too glad to meet a member of the Council Staff to discuss any details which they may request.

"Appreciating their consideration, I am

"Very sincerely yours,
"James A. Cahill Jr.,
"Director of the Department of Surgery, Georgetown University School of Medicine."

And enclosed therewith is the application blank filled out for Georgetown University, 35th and N streets N.W., Washington, D. C.: "Bed capacity, 210; Residencies required, Surgery, (1)" and the next information is as to what time of the year appointments are made: "On or about February for duty effective by July 1 of each year. Length of residency, one year but may extend to two; Salary $35 per month." The applicant "must be a graduate of a Class A Medical School and have served at least one year's internship on a general rotary service." It is stated that the Georgetown University Hospital Staff is composed of members connected with the Surgical Department of the School of Medicine. "The Staff is amply qualified for instructing the resident, and in fact the resident surgeon is required to teach and serve as an instructor to various surgical groups assigned to the hospital." The names of the members of the staff were "Dr. James A. Cahill Jr., Professor of Surgery and Chief of Department of Surgery, Georgetown University School of Medicine. Dr. Fred R. Sanderson, Associate Professor of Surgery—Dr. Howard F. Strine—Dr. Robert E. Moran—Dr. Leon Martel—Dr. Frederick Fishback—Dr. Ralph M. LeComte—Dr. Waitman F. Zinn of Baltimore, Maryland."

Then follows other information which I won't take the time of the jury now to read.

The second application is for Providence, Second and D streets N.E., Washington, D. C.:

"Bed capacity, 241," and the application for residency shows "Beds, 160—Occupancy, 95%." It states about the same information as the other; that the appointment will be made "on or about January for duty effective July 1 of each year." He gets $25 per month. Qualifications: "Must be graduate of a Class A Medical School and must have served at least one year's internship on a general rotary service." And "the Surgical Department at Providence Hospital is composed of four chiefs, and four associate surgeons. There is also a group of assistants in surgery who serve in the Out-Patient Department." The names of the staff are: "Dr. Charles S. White, Professor of Surgery, George Washington University, Washington, D. C.; Dr. James A. Cahill Jr., Professor of Surgery, Georgetown University, Washington, D. C.; Dr. Paul S. Potaki, Associate Professor of Surgery, George Washington University, Washington, D. C.; and Dr. Fred R. Sanderson, Georgetown University, Washington, D. C."

By Mr. Leahy:

Q.—Now, Doctor, when these applications were received by the council, when they are received by the council, what is done with them? *A.*—When such applications are received a notation is made on a card of the institution and its location, and what they have asked for it, and those cards are available to the hospital inspectors so that they may plan to make a trip to reach a number of or a group of these hospitals if close together. They take them up in order of the application, or the urgency of the application.

Q.—It is noted, Doctor, that the applications stated that the appointment of the resident surgeon or residency in surgery, for which the application is made by such hospital, is to be made for July 1. Would that indicate to your council as to the time the examination should be made? *A.*—Well, hardly, because most all of the internships and resident appointments are made from July 1.

Q.—Would your council make an effort to examine and investigate the hospitals before the date of the appointment? *A.*—The Council would make an effort to reach the hospital as soon as it could, but the actual appointment are usually made quite a while in advance. I think he stated the appointment would be made in February, but the work of the inspectors was always laid out for a couple of months in advance, so that when they first come in we could hardly get to them for a couple of months. We always have a large waiting list.

Q.—As matter of fact, did you assign anybody to make an examination of Georgetown and Providence in accordance with the application? *A.*—That was made in our office by consultation among the staff members.

Q.—Who was the individual selected to make the examination? *A.*—Dr. Peterson.

Q.—Is that the same Dr. Peterson who wrote the letter we just read? *A.*—Yes.

Q.—Do you recall when he came to Washington to make his investigation? *A.*—In June, I believe, the 11th of June.

Q.—At that time were any other hospitals besides Georgetown and Providence examined? A.—Yes.

Q.—Why were the others examined at that time? A.—We felt they were due for an inspection. They were George Washington Sanitarium in Takoma Park and George Washington University Hospital, and Columbia Hospital.

Q.—Do you recall now the last time when any one of those three had been examined prior to June 1937? A.—Well, one of them had been examined—the Washington Sanitarium had been examined in 1933—either 1933 or 1934. The George Washington had last been seen in 1930 and the Columbia had, I believe, never been regularly inspected.

Q.—Was Columbia Hospital one that had been approved for intern training? A.—No, sir.

Q.—For what had it been approved? A.—Residency in gynecology.

Q.—And Washington Sanitarium: Had that been approved for intern training? A.—Yes.

Q.—And George Washington? A.—Yes.

Q.—Now, then, did you give any instructions to Dr. Peterson as to the number of hospitals that should be examined in Washington when he made his trip for the purpose of visiting Georgetown and Providence? A.—No, sir.

Q.—That was left to his discretion? A.—Yes, to his judgment and discretion.

Q.—How long had Dr. Peterson been with the Council? A.—Before I came, in 1931. I think in 1930 or 1929.

Q.—At this time I am going to show you what has hitherto been identified as Government Exhibit 259. I want you to look that over and tell us whether or not you received that letter. A.—Yes, I did.

Q.—It is dated what? .'—March 27, 1937.

Q.—At the time you received Dr. Cahill's request for an examination of the hospitals, looking toward the residencies in surgery at Providence and Georgetown, had you heard of G. H. A.? A.—No, sir.

Q.—Did you know that there was such an organization in the process of formation at that time? A.—No, sir.

Q.—Had you ever heard anything of, see any writing about, or heard discussed anything about G. H. A.? A.—No, sir.

Q.—Do you recall about when you received General Ireland's letter? A.—Well, it has a date stamped on it, a date stamp we use in our office, which says, "March 27, 1937." If both of those dates are correct it must have made a very rapid journey.

Q.—Do you know Major General Ireland? A.—Yes, I do.

Q.—Did he hold any position in the American Medical Association? A.—Not at this time.

Q.—Did he before? A.—Prior to that he had been a member of the Council on Education for a long time, I think nearly twenty years.

Q.—I notice on the bottom of this Exhibit 295 the handwriting "Copies sent to Woodward and Leland, 3/31/37." Whose handwriting is that, do you know? A.—I couldn't be sure.

Q.—Can you be sure of the fact that a copy was sent to Dr. Leland and Dr. Woodward? A.—I can be sure of the fact that I instructed a copy to be sent to them.

Q.—What was your purpose in sending a copy of the letter to Woodward and Leland? A.—Leland was responsible for the conduct of a bureau which studied those matters, and I thought he might be interested in finding out something about it.

Q.—And what was your purpose in sending a copy to Dr. Woodward? A.—He had lived in Washington most of his life, and I thought he would be interested in knowing what was going on.

Q.—After you received the Ireland letter what did you do with it? A.—I had it filed; I had no further use for it.

Q.—Was there anything in the Ireland letter of March 25 in any way directing your attention to G. H. A.? A.—The name of G. H. A. was not mentioned in that letter. There was some reference to H. O. L. C., but nothing to G. H. A.

Q.—Did you have any further communication from General Ireland or from any one else following the receipt of the Ireland letter about G. H. A.? A.—No.

Q.—Following your instruction to have it sent to the files, what else did you have to do about the Ireland letter? A.—Nothing.

Q.—From the time the Ireland letter was ordered by you to the files until it was produced at this trial, had you seen it? A.—No, sir.

Q.—When you instructed Dr. Peterson to come to Washington in order to make an examination of the hospitals, Georgetown and Providence, and such others as in his discretion had to be examined at that time, had you heard of G. H. A? A.—No.

Q.—Did you know anything about it? A.—No, sir.

Q.—Had you read about it? A.—No, sir.

Q.—At your request had Dr. Peterson anything to do with G. H. A.? A.—Nothing whatsoever.

Q.—What instructions did you give Dr. Peterson, if any, in coming to Washington? A.—I gave him no special instructions.

Q.—Did you tell us how long he had been examining hospitals for the Council on medical schools? A.—Seven or eight years.

Q.—In connection with this particular trip, was this a routine examination? A.—Absolutely routine.

Q.—What was there to differentiate between this particular trip for these Washington hospitals on this occasion from examinations of other hospitals made in any other city in the country? A.—Nothing at all.

Q.—Was Dr. Peterson at that time, was he engaged solely in examination of hospitals? A.—Yes.

Q.—And your work was in the examination of what? A.—I was responsible for all of the work of the Council, but my particular activity was in the field of medical schools.

Q.—After Dr. Peterson was told to go to Washington, what did you do personally with reference to the examination of the hospitals in Washington? A.—Nothing at all.

Q.—Did there come a time when the reports of Dr. Peterson's examination came to your desk? A.—Yes.

Q.—Did you see those reports?

Mr. Timberlake:—Those reports were not introduced in evidence. They were marked for identification and returned to the files of the American Medical Association.

By Mr. Leahy:

Q.—I am going to show you now a series of reports, Doctor: Would you look them over, please, and tell us whether you can identify them or any of them. These are not the reports; they are rather thick. I think they were introduced.

Mr. Timberlake:—No, they were not introduced; they were marked for identification. They are in the files; I think the marshal has them; they are probably downstairs.

Mr. Burke:—I think Dr. Peterson has them.

By Mr. Leahy:

Q.—I think you stated, Doctor, that finally the result of the examinations of Washington hospitals came to your desk? A.—Yes.

Q.—And were they in the shape of formal reports? A.—Yes.

Q.—Do you recall having seen them? A.—Yes.

Q.—Gone over them? A.—I usually looked at the summary; I don't think I took the trouble to search the entire report, but I looked at the summary on the last page or two.

Q.—Do you recall whether the Council itself took any action on any of the reports? A.—They took action on the recommendations made by me to the Council, based on these reports. If they wanted to delve into any other feature of the reports they had access to them.

Q.—Following the receipt of the examination, or results of examinations of the Washington hospitals, was there any different procedure followed by the Council with respect to them than would have been followed with regard to a report of any other hospital in the United States? A.—No difference whatsoever.

Q.—Do you recall whether or not when you sent the report to the hospitals for inspection, if the Mundt Resolution was attached in any way to the report? A.—It was not attached in the report, but it was referred to in the letter of transmittal.

Q.—I forgot to ask you, Doctor, as a matter of fact when you received the result of the examinations of the Washington hospitals, did you follow the routine you earlier told us about this morning of sending a copy of the report to each hospital? A.—We did.

Q.—And was it on that copy of the report, together with the recommendation that you say was put the reference to the Mundt Resolution? A.—Yes.

Q.—Can you tell us what is the custom with respect to the Mundt Resolution with reference to the hospital examined throughout the country? A.—Whenever we made an examination of a hospital and sent them a report of our findings we sent also a letter calling attention to the high spots in the inspector's report and at the close of that letter we again cited the Mundt Resolution; that was the procedure followed in connection with these hospitals.

Q.—What was the result, if you know, of any action on the part of the hospitals with reference to the Mundt Resolution?

A.—Well, it would be difficult for me to remember, but I believe one of the hospitals adopted a rule that no one should be appointed to their staff who was not a member of a recognized medical society, and that if there were any members

already on the staff they would be given a year in which to become members.

Q.—I show you what purports to be a collection of correspondence, Dr. Cutter; I am calling your attention to this and ask if you can identify that correspondence in any way? *A.*—This is the correspondence we have had with the five hospitals visited by Dr. Peterson, after the visit had been completed and the report of the visit was submitted to them.

Q.—This Columbia Hospital file is all separated. Now, as I pick out each one will you tell us what each one is? The batch I have here, No. 153, relates to what hospital? *A.*—Georgetown University.

Q.—And this one? *A.*—Providence.

Q.—This one, Washington Sanitarium? *A.*—Yes.

Q.—This one? *A.*—George Washington University.

Q.—Number 223 is what? *A.*—Columbia.

Q.—Was the Mundt Resolution brought to the attention of the hospitals in any way, that is, except as is shown on the correspondence? *A.*—Only in that circular letter which was sent out in 1934 which we discussed this morning.

Q.—In this one to George Washington, under date of Aug. 27, 1937, after quoting the Mundt Resolution you say: "Analysis of the staff is included in the report. What possibility, if any, exists for the observance of this recommendation at George Washington Hospital?" That recommendation referred to was the Mundt Resolution, was it not? *A.*—Yes.

Q.—"What possibility, if any, exists for observance of this principle in your hospital?" was asked of Columbia. That is true? *A.*—Yes.

Q.—And "Analysis of the staff is included in the report. What possibility, if any, exists for the observance of this recommendation?" That was asked of this hospital? *A.*—Yes.

Q.—And at Providence Hospital, you say: "According to our analysis, there are six members of your staff who are not affiliated with any of the constituent societies of the American Medical Association"; that is after you had drawn attention to the Mundt Resolution? *A.*—Yes.

Q.—Now, on August 7 you asked of Georgetown: "Analysis of the staff is included in the report. What possibility, if any, exists for the observance of this regulation at Georgetown University Hospital?" *A.*—Yes.

Q.—Doctor, was there any letter or indication other than what is contained in what we have here which was sent to any one of those hospitals in connection with the Mundt Resolution? *A.*—No, sir.

Q.—What connection did your language to which I have referred have to G. H. A.? *A.*—None whatsoever.

Q.—At the time those letters were written had you then heard about G. H. A.? *A.*—No, sir.

Q.—Did you know anything of it by way of reading or anything that was told to you? *A.*—No, sir.

Q.—What purpose and intent, then, had you in the questions you asked of the hospitals in connection with the Mundt Resolution? *A.*—It was to follow the recommendations of the House of Delegates made in 1934.

Q.—What has been the policy of the American Medical Association through your council on medical schools and hospitals with respect to the Mundt Resolution, throughout the country? *A.*—The action taken by the Council was to recommend that the resolution be sent to the hospitals for the purposes of learning what their reaction to it would be.

Q.—Has the American Medical Association ever stricken a hospital off an approved list because it didn't put in force the Mundt Resolution? *A.*—No, sir.

Q.—Has it ever withdrawn such approval because of the failure of any hospital, because of its failure to adhere to the resolution? *A.*—No, sir.

Q.—Doctor, as a matter of fact, or what is the fact as to whether or not of the hospitals now on the approved list of the American Medical Association there are any who did not and have not complied with the Mundt Resolution? *A.*—There are very few who have exclusively members in such societies on their staffs.

Q.—The great majority has not observed the Mundt Resolution? *A.*—That is correct.

Q.—Do you recall now, Doctor, whether the American Medical Association maintains a list of every doctor in the United States with reference to his qualifications? *A.*—Yes.

Q.—So that you know whether the hospitals have pursued the recommendation as contained in the Mundt Resolution? *A.*—Yes.

Q.—And you state it to be a fact that the great majority have not complied with the Mundt Resolution? *A.*—Yes.

Q.—Did you, in anything you said or wrote with reference to the Mundt Resolution to any hospital in the city of Washington have in mind anything in connection with G. H. A.? *A.*—No, sir.

Q.—Did you in your instructions to or talks with Dr. Peterson after he had made an examination of these hospitals talk about G. H. A.? *A.*—No, sir.

Q.—Or did Dr. Peterson talk with you about it? *A.*—No, sir.

Q.—At any time following the examination of the Washington hospitals did you do anything looking toward the restraint of G. H. A., or in preventing G. H. A. members from becoming members of the staffs of the various Washington hospitals?

Mr. Lewin:—This is very leading all the way through. We have not objected but it is leading.

Mr. Leahy:—Yes; but it would be necessarily so on account of the charge. But I am all through, anyway.

Mr. Lewin:—Why not ask him what he did?

THE COURT:—I think that question may be answered. It is of a very general nature, although it does direct his attention to a particular subject. It is necessarily leading because of the negative answer which I assume he expects to receive. He may answer.

A.—No, sir.

By Mr. Leahy:

Q.—Do you know now what the hospitals in Washington which were examined actually did about the Mundt Resolution? *A.*—The only thing I know is, as I said a few minutes ago, Georgetown took some action with reference to their membership.

Q.—Do you know how long before the examination of Georgetown Hospital was made, with reference to this application for a residency in surgery, that the matter of the membership of the staff of Georgetown was considered by Georgetown University? *A.*—No, I have no knowledge about that.

Q.—I will show you a photostat of a letter. Have you seen that before? *A.*—I don't remember having seen it.

Q.—All right, don't bother about it any more. Doctor, as a matter of fact, when was it that for the first time you heard of G. H. A.? *A.*—When I read an article about it in THE JOURNAL in October.

Q.—And can you identify the article for us so that we will know to which article you refer? *A.*—It has been referred to here in court as the Woodward article.

Q.—And that is the first time your attention was directed to G. H. A. in Washington? *A.*—That was the first I knew of its existence.

Q.—Following the receipt of that knowledge by you through the manner you have indicated, did you then do anything to put pressure on a single hospital with reference to the Mundt Resolution?

Mr. Lewin:—I think that is leading.

THE COURT:—The defendant should have a right to answer definite questions as to whether or not the particular allegations of the indictment are true. The charge in the indictment is that these men did actually restrain. I think they have a right to ask whether or not he did any act that is charged against him.

Mr. Lewin:—I recognize the rule is pretty liberal when a defendant is on the stand, but I thought it was being overextended.

THE COURT:—No, I think he has a right to make a definite denial of these allegations of the indictment; to have the allegations of the charge put to him and answered. He may answer.

Mr. Leahy:—He has answered.

By Mr. Leahy:

Q.—Doctor, I want to ask you how many of these men named as defendants you know. Do you know Arthur Carlisle Christie? *A.*—Yes.

Q.—When did you first meet him? *A.*—It is hard for me to recall the exact date, but it was probably in 1933, '34, or '35.

Q.—Where did you first meet him? *A.*—In Chicago. We had a conference about something, perhaps concerning radiology.

Q.—Coursen Baxter Conklin? *A.*—No, sir.

Q.—When did you first see him? *A.*—Only in this court.

(The witness testified name by name as to his lack of acquaintanceship with defendants from the District of Columbia Medical Society.)

Q.—What discussion, if any, did you have at any time with a single one of these persons named as a defendant with reference to G. H. A.? *A.*—None whatever.

Q.—Did you ever talk to any one of them about G. H. A.? *A.*—No, sir.

Q.—Did any one of them ever talk with you or discuss G. H. A. with you? *A.*—No, sir.

Q.—I want to ask you, Doctor, if the various bureaus of the American Medical Association are separate and distinct, or are they all together? A.—They are quite separate.

Q.—And how is each one of the bureaus managed, administered or controlled? A.—Most of the bureaus are administered by a director who is responsible to the Board of Directors or Trustees. As I said this morning, our Council is not; it reports directly to the House of Delegates.

Q.—You have talked about this Council. How many clerks do you use in the work of inspecting the medical schools? A.—We have three doctors who carry on the work of inspecting the hospitals. I have one man who is not a physician who assists in the management of the department and, at the present time, fifteen stenographers.

Q.—And how busy is your office? A.—Pretty busy most of the time.

Q.—So far as mail for instance is concerned, how many letters come in in the course of a day? A.—I couldn't tell you the exact figure, but I know I have to sign every day twenty-five to fifty letters, sometimes more.

Q.—Is your Council one to which inquiries come from all over the country? A.—A great many are written to us and a great many more are written to the American Medical Association and referred to us.

Q.—Now, with reference—and I am going to make this one question—Now, with reference to all these matters and things testified to with reference to the District Medical Society, what, if any, knowledge had you about any of those matters before you heard them in this courtroom? A.—Well, after the notice was given in the summer of 1938 that an indictment against the Association would be sought, I heard a great deal about it, but until we knew that the grand jury was to be empaneled I scarcely ever heard it spoken of.

Q.—Did you ever meet with Drs. West, Leland and Fishbein and discuss G. H. A. or what the A. M. A. might do with G. H. A.? A.—No, sir.

Q.—To your knowledge did the American Medical Association ever do anything with reference to G. H. A. as an association? A.—Not through my organization.

Q.—Did you know of its having ever done anything other than the publication of this article mentioned in October 1937? A.—No, sir; that was the only thing.

Q.—I think, Doctor, your attention was called, or I am calling it—I don't think I did call it—to the fact that several letters were introduced here as having been written over your signature. I think one was to the Trinity Hospital in 1935 with reference to removing from the register the name of the Trinity Hospital. Do you remember that line of correspondence? A.—Yes.

Q.—Do you recall now what the Trinity Hospital was or is? A.—It is a hospital in Little Rock, Arkansas, which is operated by a group of doctors who sell not only hospital care but medical service.

Q.—Do you happen to have your numbers there so I could get that correspondence, and show it to you? A.—248, 249.

Q.—Next? A.—250, 250, 251, 252, 253.

Q.—Doctor, I am going to show you now what was hitherto introduced as a letter which passed between you and Trinity Hospital. Will you please look at Exhibit 248 for the Government, and I will ask you if you can identify that. The first letter, or copy of it, which you sent to Trinity Hospital. A.—That is it.

Q.—Was that written by you? A.—Yes.

Q.—What was the occasion of your writing that letter? A.—We were maintaining our register of hospitals and information had come to us that the doctors who constituted the staff of this hospital had all resigned from the Medical Association rather than face charges of misconduct, and we felt that if there was any question about the character of the work they were doing we would like to investigate it, and have some sort of an opinion upon whether the ground was sufficient to remove them from the register.

Q.—Had that hospital ever been approved as a hospital for intern training? A.—No, sir.

Q.—It was then on this yearly register which you stated before you published once in a year? A.—Yes.

Q.—You had received information from somebody which caused you to write this letter? A.—Yes.

Q.—What were you doing when you wrote that letter? Were you attempting to investigate, or what? A.—I was trying to get additional evidence; information which caused me to write that letter was a letter from the county society in Little Rock, and in order to get some affirmation, if possible, or lack of affirmation, I wrote this letter directly to Dr. Scarborough.

Q.—Did you know him personally? A.—He had been a student in the medical school when I was there, but I didn't really remember him.

Q.—Do you know where the original of that letter which I now show you is? A.—I presume it is one of those taken before the grand jury.

Q.—Have you seen it since it left your office? A.—No.

Q.—Is that a true copy of it? A.—It is a copy prepared from a photostat, prepared before the letter was sent away.

Q.—Do you know that is a true copy of the original? A.—Yes.

Q.—When did you last see the original? A.—I am not sure but it must have been in September 1936.

Q.—Does that number 1678 indicate anything to you? A.—I think that probably indicates the number of the photostat.

Mr. Lewin:—Are you going to offer that in evidence? I have no objection.

Mr. Leahy:—We will give it No. 17. You said it was upon receipt of this letter which you wrote the letter of Sept. 9, 1935, No. 248. *The Witness:*—Yes.

Mr. Leahy:—It is offered without objection.

THE COURT:—Admitted.

Mr. Leahy:

"Memorandum Re Trinity Hospital, Little Rock.

"Dr. M. D. Ogden of Trinity Hospital, Little Rock, was in the office to talk about the hospital in reference to its registration. He said it was true that all of the members of the staff of Trinity Hospital resigned from the Pulaski County Medical Society a few years ago when the Medical Society was preparing to try them for participation in their plan of flat rate practice. He says that they later tried to appeal their case to the Council of the Arkansas Medical Association and the Judicial Council of the American Medical Association with the result that their appeal could not be heard because they were no longer members. He also said that they employed someone to travel around and introduce their plan and sell it both, to groups such as banks and other concerns and also to individuals, and insisted this could not in any sense come under the head of soliciting.

"Dated September 3, 1936.

"P. S. Dr. Ogden did not appear to have very specific principles of medical ethics and was apparently not well informed on the House of Delegates. It was his impression that the delegates were told what to think. He was supplied the lacking information with regard to these matters.

"H. F. S."

By Mr. Leahy:

Q.—Who is H. F. S. A.—Mr. Sanger.

Q.—Who is Mr. Sanger? A.—He is a man in my office who looks after the general office management and keeps up this registration.

Q.—And I notice that this letter bears date Sept. 3, 1936, whereas the date here is September 1935. Can you explain that? A.—I think the date 1935 is correct, and 1936 is in error.

Q.—In fact you wrote to determine and get information,

"In order that we may have reliable information on this point, will you be good enough to explain just what is the form of service in which you are engaged? Could you send me samples of your announcements and agreements? Do you employ solicitors to procure clients?"

That was your inquiry of September 9th? A.—Yes.

Q.—Now, did you receive a reply to that inquiry? A.—I did.

Q.—Will you find it? Did he supply the information you requested? A.—No, sir.

Q.—Is the reply to your letter dated September 16 and numbered 249 for the prosecution? A.—Yes.

Q.—Did you have anything whatsoever to do, Doctor, in your official capacity or otherwise with the resignation of any of the doctors of Trinity Hospital from the Pulaski County Medical Society? A.—No, sir.

Q.—Prior to the receipt of this information, what knowledge did you have, if any, that this doctor had resigned from Pulaski County Medical Association? A.—None.

Q.—Did you have anything to do with any attempted appeal by these doctors to the Council, Judicial Council of the American Medical Association? A.—No, sir.

Q.—Did you have anything at all to do with the Council, Judicial Council of the American Medical Association, in connection with the appeal? A.—No, sir.

Q.—Have you knowledge now sufficient to tell us what jurisdiction the American Medical Association has over the action of county or state societies in the matter of disciplining members of state or county societies? A.—My understanding of it is that if any member of a county society takes exception to an action of a county society he may appeal to the State Medical Society, and that State Medical Society may confirm or overule the decision of the local medical society; and if he is dissatisfied with the decision of the state body he may

then appeal to the Judicial Council of the American Medical Association for a final determination of the question.

Q.—Did you, Doctor, have any knowledge whatsoever that these doctors who had resigned from the county association had appealed to the Judicial Council? *A.*—No, sir.

Q.—Did you know anything about it at all? *A.*—No, sir; not a thing.

Q.—So that when you wrote your letter of September 9 for that information, were you honestly seeking information? *A.*—Yes.

Q.—When you received the reply from Dr. Scarborough did you know to what he referred in his second paragraph of his letter? *A.*—I don't know exactly. I had some idea that there had been a controversy, but I did not know what the controversy was or what it was about.

Q.—Did you learn what it was about? *A.*—Afterwards I did.

Q.—What was it about? *A.*—It was about this appeal that he had taken from the County Society to the State Society and from the State Society to the Judicial Council.

Q.—And Scarborough, when you asked him for information and for samples of his agreements, and so forth, wrote you that the attitude of the American Medical Association "has been so arbitrary, unreasonable and unfair that we feel disinclined to discuss the matter further." *A.*—Yes.

Q.—And that was with reference to an appeal which had been taken to the Judicial Council? *A.*—Yes, sir.

Q.—Had you had at any time before this had any correspondence with Dr. Scarborough? *A.*—No.

Q.—Or with Trinity Hospital. *A.*—No, sir.

Q.—Had you ever had anything to do whatsoever with the registration of that hospital on the register other than as you would have with other hospitals of the United States? *A.*—Simply the routine form of sending them a report blank every year.

Q.—When you received this letter from Dr. Scarborough did you again try to get the information? *A.*—Yes, sir.

Q.—How did you try to do that? *A.*—I wrote him another letter.

Q.—What letter is that? *A.*—It is Government's Exhibit 256.

Q.—I now show you Government's Exhibit 256 and ask you if that is the letter to which you have referred? *A.*—Yes; it is.

Q.—That is your letter dated Sept. 23, 1935? *A.*—Yes, sir.

Q.—In which you say:

"Thank you for your letter of September 16. One of the duties assigned to this Council on Medical Education and Hospitals is to make a register of hospitals accepted by the American Medical Association. I am pleased to send under separate cover a copy of the register with our compliments. I need not tell you the benefits that come to a hospital through recognition in that register and the favorable publicity it is given, since the register is published in every issue of the American Medical Directory and in the special Hospital number of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Is that true, Doctor? *A.*—Yes.

Q.—Is the register published in every copy of the American Medical Directory? *A.*—Yes, sir.

Q.—Is it also published in a special hospital number of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION? *A.*—Yes, sir.

Q.—To what were you referring when you were impressing upon Dr. Scarborough the benefits that come to hospitals through recognition in the register? *A.*—Most everybody that is interested in hospitals uses our directory as a source of information; and if a hospital is listed in there they can find out something about it. If it is not listed it is difficult to find it out without personal correspondence.

Q.—(Reading)

"Enclosed is a copy of the Essentials of a Registered Hospital and a copy of the Principles of Medical Ethics to which the Essentials makes reference."

Did you show us this morning a copy of the Essentials of a Registered Hospital? *A.*—Yes, sir; I did.

Q.—That was one of those three documents you showed us? *A.*—Yes.

Q.—Did you also enclose a copy of the Principles of Medical Ethics? *A.*—I did.

Q.—I ask you to identify this booklet which I now show you, and tell us what it is. *A.*—This is the booklet which contains the Principles of Medical Ethics of the American Medical Association.

Q.—So that with your letter to Dr. Scarborough of September 26 you enclosed a copy of the Principles of Medical Ethics?

Mr. Lewin:—The letter says so.

The Witness:—May I say that the copy which I enclosed to him was not identical with this one (indicating), because this was printed in 1939, and there may have been some revision or change in the meantime.

By Mr. Leahy:

Q.—Was it some booklet similar to that? *A.*—Essentially similar to that.

Q.—Containing the ethics in force in 1935? *A.*—Precisely.

Q.—(Reading further)

"Our object in writing to you was to extend to you the privilege of speaking for the hospital and particularly supplying information on these points against which some objections have been made and which practices, if they do exist and if persisted in, would jeopardize the registration of the hospital."

Did you ever receive a reply to that letter? *A.*—No, sir.

Q.—How long did you wait for a reply? *A.*—Well, the register was published in the following month.

Q.—Have you any reply from Dr. Scarborough supplying you with any explanation? *A.*—No, sir.

Q.—When was it, then, that that hospital no longer appeared upon the register? *A.*—In March of 1936.

Q.—Did you then have some correspondence with Trinity Hospital? *A.*—No, sir. It came later. The Directory appeared in June of 1936. Following the appearance of the Directory I had some further correspondence.

Q.—When was the next time after you wrote in September 1935 that you heard from Trinity Hospital? *A.*—On Aug. 8, 1936. At least that is the date of the letter which I received August 11.

Q.—Did that supply you with any information? *A.*—No, sir. That was a letter from Caroline P. Snyder, Superintendent, asking why it was that the name of the hospital did not appear in the Medical Directory.

Q.—When did you reply to that letter? *A.*—Aug. 28, 1936.

Q.—And this letter which is identified as Government Exhibit 253 is the reply which you made to Miss Snyder's request for information in U. S. Exhibit No. 252, under date of Aug. 8, 1936? *A.*—Yes, sir.

Mr. Leahy:—The letter is as follows:

"As stated before, it is my impression that the difficulty is between the physicians who practice in your hospital and organized medicine, particularly the County Medical Society. It is my understanding that the members of the staff of Trinity Hospital resigned from the Pulaski County Medical Society, later appealing to the Council of the Arkansas Medical Society and to the Judicial Council of the American Medical Association. It is my understanding also that both of these appeals were denied on the ground that the men had already resigned, and therefore, not being members, the Council referred to would not be in position to hear an appeal from them. In this situation it appears to me that the first step should be taken by the physicians referred to regarding other hospitals, including railroad hospitals. The situation is somewhat different, and while it is being dealt with as judiciously as possible, I do not know that a solution of their case would materially affect the situation in which Trinity Hospital finds itself."

By Mr. Leahy:

Q.—Doctor, in the letter dated Sept. 16, 1935, and numbered 249, from Trinity Hospital to you, Dr. Scarborough states:

"Replying to your inquiry of the 9th I wish to confirm the report that Trinity Hospital is engaged in contract practice."

Was it the fact that Trinity Hospital was engaged in contract practice that you were calling for information in connection with, from Dr. Scarborough? *A.*—No, sir.

Mr. Lewin:—I think this is not a subject for leading. He has already suggested the answer.

By Mr. Leahy:

Q.—What was the reason why you were seeking information if it was not in reference to contract practice? *A.*—It was to determine whether or not these men had violated the rules of conduct of the Medical Society.

Q.—With reference to what? *A.*—With reference to the house-to-house solicitation of patients and canvassing for business and other things that had been reported in the memorandum which we had.

Q.—Has the American Medical Association ever taken any attitude with reference to contract practice? *A.*—Not contract practice per se.

Q.—Has your Council ever taken any attitude or fixed any policy with reference to hospitals that conduct contract practice? *A.*—Not at all.

Q.—Is there any policy in force or was there any in force in 1935 which would cause the removal from the register of any hospital engaged in contract practice? *A.*—No, sir.

Q.—Or with reference to a physician who was practicing in contract practice? *A.*—No, sir.

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Q.—Did you yourself engage in contract practice while you were practicing? A.—I did.

Q.—And you maintained your membership, did you, in the American Medical Association? A.—Yes, sir.

Q.—Doctor, I think there was also introduced a series of letters between your office and a hospital in Milwaukee, Mount Sinai Hospital. Do you happen to have a reference to the numbers of those letters with you so that we can quickly gather those letters from the exhibits? Here is No. 232. I show you a copy of a letter and ask you if you sent the original of that to the party to whom it is addressed? A.—Yes, sir.

Q.—What information did you have, Doctor, at the time you wrote that letter? A.—The letter says that:

"It has come to my attention through correspondence with the Medical Society of Milwaukee that certain physicians have been expelled from that Society through participation in an organization known as Milwaukee Medical Center. It is also reported that certain of these same individuals continue as members of your attending staff with hospital privileges."

I do not recall at this moment anything more than is stated in that letter.

Q.—Then you called attention to the Mundt Resolution? A.—Yes, sir.

Q.—And you asked the question, "What possibility, if any, exists for observance of the principle laid down in this resolution"? A.—Yes, sir.

Q.—Did you receive a reply to that letter; do you recall? A.—I think I did. We had rather a long correspondence.

Q.—That was a letter which you received dated July 30, and you received it on July 31? A.—Yes, sir.

Q.—(Reading)

"This letter will acknowledge with thanks your inquiry of July 17, 1936, in regard to the controversy between the Milwaukee County Medical Society and the members of the Milwaukee Medical Center. Mount Sinai Hospital has been forced, because of fear of itself being involved in legal complications, to take the stand that until this matter is adjudicated it is deemed advisable to take no drastic action.

"With kindest personal regards."

Did you wait until the matter was adjudicated before you took up further the question of these expelled members? A.—We had some further correspondence during the interim.

Q.—And you awaited information from them, did you, until you had further correspondence? A.—The next correspondence was on October 24.

Q.—From July 30 to October 24? A.—Yes, sir.

Q.—(Reading):

"In continuation of our previous correspondence about qualifications for staff membership in Mount Sinai Hospital, we have been informed that the Council of the Wisconsin State Medical Society has upheld the action of the Milwaukee County Medical Society in expelling certain physicians for unethical behavior. How does this action affect Mount Sinai Hospital? Are all members of the staff in good standing with the Milwaukee County Medical Society or eligible for membership in that society?"

Did you have any personal knowledge or engage in any way personally, Doctor, in any of the proceedings of the Milwaukee County Medical Society? A.—No, sir.

Q.—Or the Wisconsin State Medical Society? A.—No, sir.

Q.—When did you receive a reply, if any, to the letter of Oct. 24, 1936? A.—I think the reply was dated the 30th of October, and it is numbered 245.

Q.—I now show you No. 245 and ask you if that is the letter to which you refer? A.—It is.

Q.—And that says it acknowledges the "receipt of your letter of the 24th. I beg to inform you that the situation at Mount Sinai Hospital is still in status quo." A.—Yes.

Q.—Was there any further correspondence following the receipt of that letter? A.—Well, about a month later, that is, November 27, I wrote again. That is numbered 234.

Q.—Is this your letter, numbered 234 and dated November 27 (handing a letter to the witness)? A.—Yes, sir.

Q.—(Reading):

"We have now received word from all hospitals in Milwaukee concerning the status of certain physicians recently expelled from the Milwaukee County Medical Society. This matter will be reviewed by the Council at its next regular meeting in February, following which we will be in position to acquaint you with any further action or recommendation. However, if any changes occur in the situation of Mount Sinai Hospital we will be very glad to have you keep us advised."

Which Council are you referring to where in the second paragraph you say, "This matter will be reviewed by the Council"? A.—The Council on Medical Education of the American Medical Association.

Q.—Is it the Council on Medical Education or the Judicial Council? A.—I think that was the Council on Medical Education.

Q.—And that is the February meeting which you spoke about this morning? A.—Yes, sir.

Q.—Was any action taken by your Council in the interim while this matter was still in process of adjudication? A.—No, sir.

Q.—Do you recall when you next took it up or when you next heard from Mount Sinai? A.—The next letter, so far as I know, was in October of 1937.

Q.—And from whom did you receive that letter? A.—It was a letter from Thompson saying, in substance, that he had heard nothing.

Q.—I now show you No. 216 and ask you if that is the letter you refer to, dated Oct. 22, 1937? A.—Yes, sir.

Q.—(Reading):

"Considerable time has elapsed since I communicated with you in regard to the status of the men associated with the Milwaukee Health Center. These men were expelled over a year and a half ago and at that time you wrote me to ascertain the attitude to Mount Sinai Hospital, which letter I answered under date of July 30, 1936. We have heard nothing definite in regard to this matter since that date, and we are anxious to know where the matter stands at the present time. Has the action of our County Medical Society been upheld by the American Medical Association? If not, when will action be taken? Mount Sinai Hospital has always been and, I hope, will always be cooperative with organized medicine, and where we can be of assistance to the County Medical Society we do not hesitate to render such assistance. In fact, I have on my desk at the present time a letter from the secretary of the County Medical Society thanking the hospital for its participation in a pre-school round-up As I explained in the previous correspondence we have withheld decision in regard to physicians from the Milwaukee Health Center pending action by the American Medical Association.

"I hope to be in Chicago on Tuesday, October 26, and would like to have the opportunity of discussing this matter with you."

Do you know whether Dr. Thompson came to Chicago on Oct. 26, 1937? A.—I do not know.

Q.—I show you No. 217 and ask you if that is your letter to Dr. Thompson? A.—That is correct.

Q.—That letter is dated Nov. 3, 1937, and states that:

"The matters about which you inquire are still under discussion by the Judicial Council of the American Medical Association. As soon as a decision has been reached we shall be sure to apprise you of the fact."

Do you recall whether you later did apprise Dr. Thompson of the fact of the decision of the Judicial Council of the American Medical Association? A.—We did.

Q.—Was that the next letter in the line of correspondence? A.—No. The next one was when Dr. Thompson wrote on the 6th of April, 1938, No. 206.

Q.—I now show you No. 206 and ask you if that is the next letter in the chain of correspondence? A.—Yes, sir.

Q.—It is directed to you and dated April 6, 1938:

"I am writing you to ascertain whether or not there has been any change in the situation concerning compulsory County Medical Society membership on approved voluntary hospital staffs. It has been several months since any correspondence has passed between us, and since we are vitally interested in this matter I would appreciate hearing from you in regard to it."

Do you recall to what Dr. Thompson refers when he says:

"I am writing you to ascertain whether or not there has been any change in the situation concerning compulsory County Medical Society membership?"

A.—I think he was awaiting the decision from the Judicial Council.

Q.—Do you know what the rule of the County Medical Society was, the Milwaukee County Medical Society, with reference to membership on staffs of hospitals of Milwaukee County? A.—No; I do not.

Q.—Were you concerned in any way about it? A.—No, sir.

Q.—This correspondence had now been going on for a long time? A.—Since the summer of 1936.

Q.—Is that your letter (handing a paper to the witness)? A.—Yes, sir.

Q.—It is dated April 13, 1938, and numbered 207:

"We have recently been informed that the Judicial Council of the American Medical Association has sustained the action of the Milwaukee County Medical Society in the matter of certain physicians recently expelled from Society membership. Accordingly we shall be anxious to know what action Mount Sinai Hospital is taking."

Was Mount Sinai a hospital which was approved for intern training? A.—It was.

Q.—Was it also approved for residencies? A.—I don't remember, but I doubt it.

Q.—Was there any further correspondence after April 1938? A.—Yes, sir. On the 15th of April Dr. Thompson replied with No. 208.

Q.—I now show you No. 208 on the stationery of Mount Sinai Hospital of Milwaukee, a letter dated April 15, 1938. Is that the letter you refer to? *A.*—Yes, sir.

Q.—(Reading):

"Thank you for your letter of April 13. I note that you referred to the resolution of the House of Delegates pertaining to staff appointments in hospitals approved for intern training. In checking our correspondence I note under date of July 17, 1936, you wrote as follows:

"'May we call your attention to the recent resolution passed by the House of Delegates of the American Medical Association as follows:'"—Quoting the Mundt Resolution.

"I note particularly that this resolution, passed by the House of Delegates, was referred to the Council on Medical Education and Hospitals. We are wondering whether or not the Council on Medical Education and Hospitals has taken any definite stand regarding this matter. I would appreciate receiving this information as soon as possible in order that I may present the whole matter to the staff at its next regular meeting."

Doctor, had the Council on Medical Education and Hospitals ever taken any other stand than what you have already told us about with reference to the Mundt Resolution? *A.*—No other stand.

Q.—Did you reply to that letter or cause a letter to be sent? *A.*—The next letter in this series of correspondence was written by one of the members of my staff on May 5. It is numbered 211.

Q.—I now show you No. 211 and ask you if that is the letter you refer to? *A.*—Yes, sir.

Q.—You say that Dr. Arestad was then on your staff? *A.*—Yes.

Q.—How long had he been on your staff in May of 1938? *A.*—Altogether, he had been on the staff more than ten years. He was with the Council for two or three years, and then he developed an illness which caused him to leave the Council, and then after a couple of years he got better and he came back again and he has been continuously on the staff since.

Q.—I ask you if this letter which has just been identified by you truly expresses the attitude of the Council on medical schools and hospitals? *A.*—It does.

Q.—It is dated May 5, 1938, addressed to Dr. Thompson, Superintendent of Mount Sinai Hospital, and reads as follows:

"In the absence of Dr. William D. Cutter I have been requested to reply to your letter of April 15.

"May I say, first of all, that the American Medical Association does not have, nor does it assume, legal authority over any hospital, and consequently does not presume to dictate how hospitals should conduct their affairs. If, however, a hospital desires the endorsement of the Council it should be willing to comply with the principles which the American Medical Association considers necessary. One of the basic requirements is that the medical staff should be composed of regular physicians properly qualified as to training, licensure, and ethical standards. When a hospital, therefore, employs physicians expelled from County Medical Society membership on the basis of unethical conduct, it is obvious that the hospital's standing is involved not only from the point of view of intern training, but also as regards basic registration. We are anxious, therefore, to be notified of any action taken by your Executive Board."

Now, Doctor, did you receive any reply to that letter? *A.*—Not until after we had written to him again.

Q.—When did you write to them again about it? *A.*—On the 14th of July. The letter is numbered 205.

Q.—Do you recall who wrote that letter? *A.*—I think I wrote that, myself.

Q.—I now show you No. 205, dated July 14, 1938, and ask you if you wrote that? *A.*—Yes, sir.

Q.—(Reading):

"In view of the fact that we have received no reply to our letter of May 5 and no notification of any action taken with respect to employment of physicians expelled from the County Medical Society, we wish to inform you that we are recommending to the Council that Mount Sinai Hospital be removed from the approved intern list and also from the register of the American Medical Association."

Q.—Was there a further letter? *A.*—There was a further letter, but in the interval before I received that letter I had a telephone conversation with Dr. Thompson.

Q.—Then did you receive a letter from him following the telephone conversation? *A.*—Following the telephone conversation I wrote him a letter on the 20th, and he wrote me one on the 21st.

Q.—I will now show you, first, the letter you wrote him on the 20th, which is U. S. Exhibit 212. I will ask you if that is the letter you referred to when you said you wrote him on the 20th? *A.*—Yes, sir.

Q.—That letter says:

"With reference to your recent telephone inquiry, we wish to state that in our opinion the action taken by the County Medical Society in expelling physicians for unethical practice constitutes a censure of other doctors participating in the same enterprise."

Did you receive a reply to that? *A.*—Yes, sir.

Q.—I now show you No. 213. Is this the letter you referred to, which is dated July 21, 1938? *A.*—Yes, sir.

Q.—And that letter reads:

"This will inform you that on recommendation of the Executive Committee of the staff of Mount Sinai Hospital and ratification by the Board of Directors of the Mount Sinai Hospital, Drs. A. L. Curtin and H. F. Walters were removed from the active staff of Mount Sinai Hospital and courtesy privileges were withdrawn from these two men" as well as from two others, "in accord with your letter dated July 20 and the telephone conversation had with you on Friday, July 15, 1938."

Did that close the correspondence? *A.*—I think there was one more letter on the 31st of July, No. 214.

Q.—I now show you No. 214. Is that the letter you refer to? *A.*—Yes, sir.

Q.—(Reading):

"To supplement our letter of July 21 and to conform with your letter of July 20 we wish to inform you that Dr. B. B. Oberembt has been removed from the courtesy staff of Mount Sinai Hospital and courtesy privileges withdrawn."

In one of your letters which we have just read you stated to Dr. Thompson that you had heard from the other hospitals in Milwaukee. Do you know whether or not the other hospitals in Milwaukee had dropped these doctors from their staffs who were retained by Mount Sinai? *A.*—They had, because we received from each of them a list of their staff in connection with their information which they sent in for the maintenance of our register, and on looking over the lists we found that the names of these men no longer appeared.

Q.—Were those names dropped from the staffs of the other hospitals in Milwaukee in pursuance of anything which your Council had done? *A.*—No, sir.

Q.—So far as your information is concerned, it was the voluntary act of the hospitals themselves in Milwaukee? *A.*—So far as we knew.

Q.—What was the only hospital in Milwaukee which retained the five expelled members on its staff? *A.*—Mount Sinai.

Q.—Did you yourself have any personal knowledge with reference to the charges or anything of that sort upon which the doctors had been disciplined in their own Medical Society? *A.*—No, sir.

Q.—Did that have anything whatsoever to do, the action on your part or on the part of the Judicial Council, with the Mundt Resolution? *A.*—No, sir.

Q.—By the way: what authority have you alone to act with reference to registrations on the hospital register? *A.*—None at all.

Q.—In whom lies authority to that end? *A.*—With the Council.

Q.—And before any action could be taken with reference to Mount Sinai Hospital who must pass upon it? *A.*—The Council.

Q.—By what sort of a vote? *A.*—As a rule they did not take a ballot, but somebody would make a motion and the motion would be unanimously adopted. We rarely had divided decisions.

Q.—There is a question which I forgot to ask you with reference to the Mundt Resolution in the Washington hospitals. Was the Mundt Resolution drawn to the attention of the other hospitals in Washington which were not examined in 1937? *A.*—No, sir.

Q.—There was also, I think, a series of two or three letters which were introduced with reference to a doctor in Syracuse, was there not? *A.*—In Rochester.

Q.—Was his name Parnall? *A.*—It was.

Q.—Have you the numbers of those letters there now? *A.*—246, 254 and 255.

Q.—What was the occasion of the letters to Dr. Parnall? *A.*—It was the usual thing.

Q.—See if this is another one, Doctor, while I am looking for the others, please (handing a paper to the witness). Do you identify one of those? *A.*—Yes.

Q.—That is dated what? *A.*—Dec. 1, 1936.

Q.—At that time do you recall whether or not any examination had been made of a hospital in which Dr. Parnall was interested? *A.*—The examination had been made some time before, and the letter had been sent to him in September. This refers back to the letter of September to which we had had no reply.

Q.—Was this the letter which you wrote to Dr. Parnall following the letter which you had written to him earlier, as you stated? *A.*—Exactly.

Q.—Did that express the attitude of the Council toward the Mundt Resolution? *A.*—It did.

Q.—And its adoption by hospitals? *A.*—Yes, sir.

Q.—(Reading)

"We wrote you on September 8 calling your attention to a recent resolution passed by the House of Delegates of the American Medical Association, as follows:"—

Then follows the resolution. I will not take the time to read it.

"Our analysis of the recently submitted staff list was quoted in the inspection report which was sent to you at the same time. We are anxious to learn from approved hospitals as to whether they are in general agreement with the principle laid down in this resolution and would be pleased to have your comments in the matter."

Did he give you his comments about the Mundt Resolution? *A.*—Yes, sir.

Q.—Is that identified as No. 254 and the date as December 17? *A.*—Yes, sir.

Q.—In reply to that Dr. Parnall wrote:

"Relative to the resolution of the House of Delegates favoring a rule by the Council on Medical Education and Hospitals limiting membership on a hospital staff to members in good standing in local county societies, I am in somewhat of a quandary as to just what to say. Personally I feel that members of hospital staffs should be members of their local County Societies. However, I do not believe in any inflexible rule setting up such a standard of eligibility. I suggested to our Board of Directors a change in the by-laws with respect to staff appointments requiring that unless otherwise voted by the Medical Board no physician would be eligible unless he is a member in good standing of the County Medical Society.

"When this proposal was referred to the Medical Board for an opinion I was rather surprised to find that its members, all members of the County Medical Society, were unanimously against it. Their feeling was that the County Medical Society should stand on its own merits and that it should offer enough of itself so that practically every member of a hospital staff should seek membership and that anything that savored of compulsion would subject medicine to the same thing that arouses the resentment of doctors to the actions and attitudes of nonmedical organizations. It was pointed out that only a small percentage of the staff were not members of the County Society and that most of this group were younger men most of whom will shortly join the Medical Society.

"I am sending you a list of staff members for the hospital year 1935-1936."

He says that there are 128 members, 118 of whom are members of the County Society, leaving 10 or 8 per cent who are not.

"Even of the honorary inactive staff of 7 members, all but one being over 75 years of age, there is only one who is not a member of the County Society. The only two who are not members of the County Society are the Professor of Bacteriology at the University and a bacteriologist who is not an M.D. Our staff represents practically one fourth of the active membership in the County Society. In this membership are the president of the New York State Medical Society, the president, the president-elect, and the secretary of the Medical Society of the County of Monroe. I personally have been a member of the American Medical Association continuously for over thirty years and two of my sons are members of County Societies. Under the circumstances, as far as control of organized medicine is concerned, could the House of Delegates very well hold that the Rochester General is an unfit place for the training of interns?"

Now, Doctor, when you and your Council were advised that there were ten members on the staff of the General Hospital of Rochester who were not members of the local medical society, what action, if any, did you take to compel the Rochester General Hospital to adopt the Mundt Resolution? *A.*—None at all.

Q.—Has your Council, or have you personally, ever taken any compulsory proceeding against any hospital in the United States on the Mundt Resolution? *A.*—No, sir.

Q.—Did you reply to that letter of December 1? *A.*—There was a reply sent from my office.

Q.—Is this the reply which was sent from your office (handing a paper to the witness)? *A.*—Yes.

Q.—It is dated Dec. 21, 1936, and says:

"In response to your letter of December 17 let me express my appreciation of your information and your comments on the affiliation of your staff members with your medical society.

"The intention behind the resolution was to smoke out from the staffs of some hospitals certain men who were regarded as objectionable and whom the hospitals felt a delicacy in removing. I notice that your staff enjoys a very favorable position in regard to the support of your professional organization, and that apparently any object which the Council might have had in view has already been anticipated."

Did that close the correspondence? *A.*—It did.

Q.—Has any action ever been taken by your Council with reference to the Rochester General Hospital because of the fact that they had nonmembers on the staff? *A.*—No, sir.

Mr. Leahy:—May we approach the bench for just a moment, your Honor?

THE COURT:—Yes.

(Mr. Leahy and Mr. Lewin approached the bench and conferred with the court in a low tone of voice.)

Mr. Leahy:—Doctor, I would like to put on a witness for just a few moments in order to identify some documents. (The witness left the stand and took a seat in the court room.)

TESTIMONY OF SENATOR PAT McCARRAN

DIRECT EXAMINATION

By Mr. Leahy:

Q.—Senator McCarran, you are one witness whom we will not have to ask your full name. Were you subpoenaed to produce certain documents here? *A.*—I was.

Q.—Have you those documents here, Senator? *A.*—I have, in part. I was subpoenaed to produce a certain original letter, which original letter I did receive and have in my possession, but which, after a very thorough search of my files, I am unable to find. I can explain the absence of it if you wish the explanation.

Q.—You have made a thorough search for it and cannot find the original? *A.*—That is correct.

Q.—Do you have a copy which you know to be a true and correct copy? *A.*—I have.

Q.—Have you produced that, Senator? *A.*—I have it here. I have here a copy which I know to be a correct copy of a letter received by me as a member of the Committee on Appropriations of the United States Senate, signed by R. M. Elliott, Acting Comptroller General of the United States, of date Dec. 16, 1937, pursuant to my letter to him, a copy of which I also present here of date Dec. 1, 1937.

Q.—Does the letter of December 16, Senator, have with it the exhibits? *A.*—Yes, sir; following the letters of the alphabet from A to P, inclusive, as I recall it. (After examining documents) Yes; that is correct.

Q.—Do you identify, Senator, the exhibits A to P, inclusive, as correct copies of the exhibits which were attached to the original letter? *A.*—My recollection is that these are the exhibits that were attached to the letter. If they are not, then they are correct copies. The letter which I gave you from Mr. Elliott is a correct copy attached to my letter of Dec. 1, 1937.

Q.—So that if I place all of these within the elastic here that will constitute a correct copy of the letter and either the original exhibits attached thereto or correct copies thereof? *A.*—That is correct.

Q.—Were you asked also to produce any further letters, Senator? *A.*—I think I was asked to produce a letter from Mr. John H. Fahey, Chairman of the Federal Home Loan Bank Board, of date Dec. 3, 1937.

Q.—Do you so produce that? *A.*—I produce the original letter now.

Q.—Were you asked for any other letter also? *A.*—The letter to which I have just referred, as of date Dec. 3, 1937, was addressed to me and signed by Mr. Fahey; and I have here also a letter of Sept. 22, 1937, addressed to me on the stationery of the Federal Home Loan Bank Board in Washington signed by Howard Acton, Director of Public Relations.

Q.—Thank you, Senator. Now, could you also identify for us now, please, the two documents which I now show you? *A.*—I identify this document (indicating) bound in a loose binding here. I have brought with me an identical document which is a copy of the hearings before the Subcommittee of the Committee on Appropriations of the United States Senate, 75th Congress, 3d Session, on H. R. 8837.

Q.—And you identify that, Senator, as the official copy? *A.*—I identify it as a copy of the hearings conducted before the subcommitte on the bill then under consideration, which was H. R. 8837, at which certain testimony was taken.

Q.—Could you now identify the document I hand you, Senator? *A.*—I identify this document, of date Jan. 6, 1938, as a copy of the report on H. R. 8837, which report was made by Congressman Woodrum of the House Committee on Appropriations, and a copy of which is always furnished to the Appropriations Committee of the Senate, to each member. And this is a correct copy of those hearings.

Mr. Leahy:—May these be given appropriate numbers for identification purposes?

By Mr. Leahy:

Q.—Senator, would you be kind enough to permit us to keep these in the custody of the Clerk of the Court? *A.*—Certainly.

Q.—Thank you. *A.*—When this matter is concluded, in order that my files may be complete, I would ask that the letters might be returned, and the copy of the hearings, so that I may keep my files complete.

Mr. Leahy:—They will be returned to you, Senator. Thank you very much.

Mr. Lewin:—No questions.

Mr. Leahy:—Thank you, Senator. I appreciate your coming.

TESTIMONY OF DR. WILLIAM DICK CUTTER

CROSS EXAMINATION

By Mr. Lewin:

Q.—Are you employed on a full time basis with the American Medical Association, Doctor? *A.*—Yes, sir.

Q.—How long did you say you had been employed on that basis? *A.*—Since the first of December, 1931.

Q.—And during that time how have you been compensated? *A.*—By a salary paid monthly.

Q.—I think you testified that before you made that association you had engaged at times in contract practice? *A.*—Yes, sir.

Q.—Who was the party with whom you contracted? *A.*—The Copper Queen Consolidated Mining Company.

Q.—How long were you associated with that company under a contract? *A.*—Four years, 1906 to 1910.

Q.—What were your duties? *A.*—To look after the employees of the mining company. *Q.*—How were you compensated there? *A.*—Partly by salary and partly by fees from private practice.

Q.—But you were actually rendering medical service to employees and being paid for it by salary? *A.*—Yes, sir.

Q.—Did you regard that connection or salary as unethical practice on your part? *A.*—No, sir.

Q.—Was it ever challenged as being unethical? *A.*—No, sir.

Q.—Did you have any other contract to practice during your career except that? *A.*—No, sir.

Q.—Were you ever a physician for a railroad? *A.*—I was a physician for New York Central railroad for about one year.

Q.—What was your arrangement with the New York Central? *A.*—I had no compensation except an annual pass.

Q.—Was the taking of that emolument for your service regarded as unethical practice? *A.*—No, sir.

Q.—Was it ever challenged on that ground? *A.*—No, sir.

Q.—When you worked for the mining company on a salary and rendered medical service to the employees, would it be fair to characterize that as selling your professional service for resale to those employees? *A.*—Well, I don't know whether it would be applicable or not.

Q.—You remember that characterization that your colleague, Dr. Woodward, put on Group Health Association doctors, do you not? *A.*—I can recall it now.

Q.—As a matter of fact, might not your employment with that mining company be so characterized? *A.*—I am not sure whether it could or not. The employees paid a certain fee which the company collected and paid us out of that. Whether they acted as a resale agent or not I could not tell you.

Q.—So your thought would be that that sale of medical services for resale is not unethical; is that right? *A.*—I would agree that all forms of contract practice are not necessarily unethical.

Q.—Would you say that the approval which the A. M. A. gives hospitals for the teaching of residents is a valuable thing to the hospital which gets such approval? *A.*—Yes.

Q.—Would you say it was extremely valuable to the hospital? *A.*—No.

Q.—Would you say that the approval of the A. M. A. for intern training was valuable to the hospital? *A.*—Yes.

Q.—Would you say that was extremely valuable? *A.*—No.

Q.—Not extremely valuable? *A.*—No.

Q.—Would you say that registration of hospitals was valuable to the hospitals? *A.*—Yes.

Q.—In what way is registration valuable to a hospital? *A.*—It simply means that people who want to get information about a hospital can get it by turning to our register.

Q.—People are more likely to go to a registered hospital than to an unregistered one? *A.*—Probably.

Q.—And therefore the hospital is likely to enjoy more business? *A.*—Yes.

Q.—And get more income from the patients who take its service? *A.*—Probably.

Q.—What is the value of the approval of a hospital for internship? *A.*—It is this, that if the hospital is known to render a good course of instruction to its interns by reason of its being on our list, it is easy to get interns. Good interns will apply; and they will accept internship in those hospitals without any compensation other than their maintenance. If they are not getting good instruction they would have to be paid in cash.

Q.—Any hospital has a substantial financial interest in getting approval for intern training from you and your council? *A.*—Well, it is a financial interest but not a very big one.

Q.—Well, it would mean without your approval it would have to employ house doctors on salary, wouldn't it? *A.*—Yes.

Q.—But with your approval it is able to attract bright medical students to work for very little? *A.*—Quite so.

Q.—And in return these interns would perform a valuable service to the hospital, would they not? *A.*—Yes.

Q.—Now, does the hospital get anything by way of prestige in obtaining approval for interns from you? *A.*—Well, that is a rather indefinite quality. It doesn't do them any harm.

Q.—No. And conversely, a hospital which loses your approval suffers substantially in prestige, doesn't it, wouldn't you say? *A.*—Not necessarily. There are too many good hospitals that don't have our approval to make that true.

Q.—Yes, but if a hospital once has your approval and then you withdraw it, doesn't that bring about a loss of prestige? *A.*—Not necessarily.

Q.—But wouldn't it give that hospital something of a black eye? *A.*—No. The hospitals of the United States Army have frequently been approved for the training of interns. Sometimes when they haven't appropriations for interns we have to withdraw our approval simply because they are not hiring interns, and that doesn't affect their prestige in any way, shape or manner.

Q.—It depends on the grounds for which the approval is withdrawn? *A.*—Yes.

Q.—But if the approval is withdrawn because the American Medical Association chooses to characterize some of the members of the hospital staffs as unethical, you would say that would give it a black eye, would it not? *A.*—No, I wouldn't say so.

Q.—Well, on what do you think the withdrawal of approval would affect the prestige of the hospital? *A.*—Well, if the hospital was not giving good service to its patients then it would affect the prestige of that institution, the withdrawal of the approval of the American Medical Association and its council, for if that has any validity at all, it is based on the confidence of the public, and that confidence is built on the fact that it is based on the public interest.

Q.—Well, don't you think the public might stop with the word "unethical," and not look behind it to see what you gentlemen meant by that term, and suppose there is some moral wrong? *A.*—Well, the reasons for withdrawal are not published, so the public wouldn't have any knowledge of that.

Q.—The medical profession would have knowledge, wouldn't it? *A.*—No, sir.

Q.—Wouldn't you say Mount Sinai Hospital would have received a loss of prestige because they had these doctors who were expelled from the Milwaukee County Medical Society? *A.*—Well, I don't think it would have.

Q.—You don't think it would have suffered any loss of prestige? *A.*—No, sir.

Q.—Didn't you have an article in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION entitled "Hospital Service in the United States," published March 11, 1939? *A.*—Yes, sir.

Q.—And in that article didn't you say "It is considered a disgrace among hospitals to be refused registration, and institutions that are rejected are frequently aroused." *A.*—I don't remember saying it, but if it is in that article—

Q.—Is it true? Is it true that loss of registration might well be regarded as a disgrace for the hospital? *A.*—That is a refusal of registration.

Q.—All right. Would the same thing apply to withdrawal? *A.*—Well, it would depend upon the grounds on which the withdrawal was based.

Q.—Suppose the grounds are not known. You see, the public doesn't usually know the grounds. Might it not assume there was really some valid moral grounds for withdrawing this approval? *A.*—Well, I think that the public would probably assume that there was some reason.

Q.—As a matter of fact don't you know, Dr. Cutter, that most of the hospitals desire your registration and your approval for intern training and for residencies very much indeed? *A.*—I think that is true.

Q.—Do you remember the letter you got from Sister Rodriguez here in Washington saying that withdrawal of the approval for intern training school would be a dire catastrophe? *A.*—I think she overstated the case.

Q.—Well, you have, in general, in the minds of hospital superintendents, that thought, don't you? *A.*—Well, I don't think it is as strong as that.

Q.—By reason of your power—and I am speaking now of the power of your Council to withdraw this registration, these approvals, you are able to get the hospitals to do certain things, are you not? *A.*—Well, as long as the things we ask them to do are reasonable.

Q.—For instance, you were able, were you not, to get the Mount Sinai Hospital to deny courtesy staff privileges to a group of doctors. Is that right? *A.*—That is what they did.

Q.—And you got that easily by invoking the Mundt Resolution, did you not? *A.*—No, not by the Mundt Resolution.

Q.—Didn't your first letter to Mount Sinai Hospital approach the problem on that basis? *A.*—The first letter did. But the final letter which told them they would be recommended for withdrawal was based on the essentials for a registered hospital.

Q.—Isn't it true that your Council had a meeting on Feb. 13, 1937, at which you were present, and at which this Mount Sinai approval was discussed, and isn't it true that at that meeting the following occurred:

"Members of the staff expelled from Medical Society of Milwaukee County on charge of running an unethical clinic. Order expelling appellants from membership confirmed by the Wisconsin State Medical Society.

"If an appeal has been made to the Judicial Council, it was recommended that action regarding the removal of Mt. Sinai Hospital from the list of hospitals approved for intern training be withheld pending decision by Judicial Council.

"If no appeal has been made, the Secretary was instructed to write the hospital advising approval would be withdrawn unless they conform to the requirement regarding staff membership."

Is that what transpired? *A.*—It is.

Q.—And didn't you have in mind the requirements of the Mundt Resolution? *A.*—No, we had it. mind the requirements for registered hospitals.

Q.—Well, this is approval for intern training, is it? *A.*—Approval for intern training is automatically removed if a hospital is off the register.

Q.—But didn't the Mundt Resolution lay down as an approval for intern training that very thing? *A.*—No. It did not. It stated it should take it under advisement.

Q.—And didn't you so construe that? *A.*—We construed it meant we should encourage hospitals to follow that spirit of the resolution.

Q.—And you did embark on a practice of trying to get the hospitals to conform to that resolution? *A.*—We embarked on a practice of sending that to the hospitals for their approval.

Q.—And if they didn't answer it you followed it up and still demanded to know what they were going to do about it? *A.*—We followed it up and asked them what they were going to do about it.

Q.—And when they denied it, you followed it up with withdrawal of approval, didn't you? *A.*—No, sir.

Q.—That is what you did in the Milwaukee case, wasn't it? *A.*—There was a different factor involved there.

Q.—You followed the proceedings of the local Council in that Curtin case, didn't you? *A.*—I didn't follow the proceedings of the local Council at all.

Q.—Wasn't this your letter of October 1938 to Mt. Sinai Hospital:

"We have been informed of the action of the Milwaukee Society in the matter of certain physicians recently expelled from Society Membership.

"Accordingly we shall be anxious to know what action Mt. Sinai Hospital is taking in respect to the resolution of the House of Delegates pertaining to staff appointments for hospitals approved for intern training."

A.—Yes, sir.

Q.—Did you mean the Mundt Resolution in that second paragraph? *A.*—That referred to the resolution, but the action wasn't taken on that basis.

Q.—The action was taken two months later, wasn't it, and was to withdraw the approval for intern training? *A.*—Yes, sir.

Q.—Didn't you know this, didn't you know that those Mt. Sinai doctors had been expelled solely because they were associated with this Milwaukee Medical Center? *A.*—I knew it was some such reason as that.

Q.—Well, now, you must have followed the proceedings. Haven't you? *A.*—No.

Q.—Haven't you seen this appeal to the Judicial Council on the grounds on which those doctors have been expelled? *A.*—No, I never saw that.

Q.—In other words, it didn't make any difference to you on what grounds? *A.*—It didn't make any difference to me if the Judicial Council affirmed the decision. That is all we were interested in.

Q.—No matter what grounds were used or what findings, if the A. M. A. expelled them, then it was your duty to smoke them out of the hospitals? *A.*—We weren't in position to make investigations and we had to accept the decisions of our own Judicial Council as true.

Q.—Isn't my statement true, no matter what the grounds were, once they were expelled by the local societies and that had been affirmed on appeal or no appeal had been taken, then it was your practice to invoke the Mundt Resolution and smoke them out of the hospital staffs? *A.*—It was our practice to invoke the essentials of a registered hospital, to inform the hospitals that they wouldn't be registered if those men continued on the staff.

Q.—Didn't you tell Dr. Parnall the purpose of the Mundt Resolution was to smoke out from the staffs certain men who were objectionable? *A.*—That letter went out from my office, but I didn't write it.

Q.—Aren't those your initials? *A.*—Those are my initials, but a good many letters were written there that I didn't see.

Q.—Don't you understand by that letter that that was the purpose? *A.*—Well, yes.

Q.—Your Council stated it was the purpose? *A.*—No.

Q.—You repudiate the statements then, do you? A.—Yes. As the principle of the Council, I would.

Q.—Who was it that wrote that letter, do you know? *A.*—Well, I can't say.

Q.—But you were certainly given responsibility for it. Do you permit them to put your initials on it when you don't dictate the letter? *A.*—We did that regularly.

Q.—Somebody was authorized to write that letter, weren't they? *A.*—Somebody wrote it.

Q.—Did you ever countermand that statement? *A.*—No, sir.

Q.—Did you ever write to Dr. Parnall and say you were wrong in that second paragraph? *A.*—No, because I had no knowledge of the letter.

Q.—This copy was retained in your files, wasn't it? *A.*—Yes, sir.

Q.—Let me show you Exhibit 207 and call your attention to the dictation initials.

You see on the bottom of that "W. D. C.," which are your initials, are they not? *A.*—Yes.

Q.—"K. H." are the initials of the stenographer. And "F. H. A." below that, those are the initials of the writer, are they not? And wasn't it the custom in your office for the writer to put his initials on below yours? *A.*—No, it wasn't the custom. One or two of the girls did it that way.

Q.—There is another one with "C. M. P." below yours. I am referring to 217. *A.*—Yes, sir.

Q.—But on this one that was sent to Dr. Parnall which is written in the first person, no such designation appears. *A.*—Well, it still remains true that I didn't dictate that letter.

Q.—You signed it, though, didn't you? *A.*—I am not sure of that. I may have.

Q.—And if you signed it, no doubt you read it over? *A.*—Well, not always.

Q.—Well as a matter of fact you did employ the Mundt Resolution in the Mount Sinai Hospital instance to smoke out Dr. Curtin and those other doctors who had been expelled from the Milwaukee Society because they were connected with a prepayment clinic, and only because of that, off of the courtesy staff of the Mount Sinai Hospital. Is that right? *A.*—No, sir. We relied upon the essentials of the registered hospitals when we recommended the action on that case.

Q.—And doesn't this correspondence with Mount Sinai Hospital show very clearly that you succeeded finally after that long correspondence in getting them to let Dr. Curtin and Dr. Ruth and these other doctors go? *A.*—Well it shows they did let them go.

Q.—And don't you think you had something to do with it? *A.*—Possibly.

Q.—And don't you think you were carrying out the Mundt Resolution when you did it? *A.*—I don't think we were basing it on the Mundt Resolution.

Q.—Now, was there any other agency that rated hospitals for intern training? *A.*—Not for intern training; no, sir.

Q.—The A. M. A. is the sole agency that does that in this country? *A.*—Yes.

Q.—Now isn't it true that you gave instructions to Dr. Peterson to inspect the five Washington hospitals after you received the letter from Major General Ireland calling attention to the H. O. L. C. medical service plan? *A.*—No, sir.

Q.—When did you first give Dr. Peterson his instructions? *A.*—I didn't give Dr. Peterson any instructions at all. I simply filed with him the applications we had received.

Q.—Doesn't Dr. Peterson work subject to your general directions? *A.*—Subject to my general directions he does, but he had practical control with respect to intern training in hospitals, and residencies.

Q.—Isn't it true that you wrote him to inspect these five hospitals after you got a letter from General Ireland? *A.*—No.

Q.—Didn't you testify that you first embarked on this program June 11, 1937? *A.*—No.

Q.—When did you first embark on this program? *A.*—I think the first was October 10 concerning these cases in which approval was wanted.

Q.—When did he first come to Washington that year to inspect these four hospitals? *A.*—The 11th of June, 1937.

Q.—And that was a few months after you received the Ireland letter? *A.*—It was.

Q.—And although the Ireland letter did not call specific attention to name Group Health Association, there was no doubt what the gentleman meant, from reading it? *A.*—Well, his letter was so brief and vague it didn't make clear what he was talking about.

Q.—Is this vague:

"The early part of the week a couple of men from the Home Owners' Loan Corporation visited the Surgeon General of the Army to say that they wanted to obtain the services of a doctor to look out for the health of their personnel, which incidentally is quite large. After the consultation, the Surgeon General asked Colonel Glenn Jones, a retired medical officer, to visit these people. After this visit which lasted for a period of two or three hours, Jones telephoned to the Surgeon General to the effect that this was nothing but an entering wedge to the establishment of state medicine and so far as he could make out the Twentieth Century Finance Corporation of New York City was going to pay the expenses of this so-called medical care for the personnel of the H. O. L. C. Needless to say, Jones and the Surgeon General are dropping it like a hot cake."

Now, you had all that information when Peterson came to Washington to inspect these five hospitals? *A.*—Yes.

Q.—And you thought enough of it to send copies of it to your colleague Dr. Woodward who was head of one Bureau and Dr. Leland who was the head of another Bureau? *A.*—Yes.

Q.—And you read the letter and knew the facts contained therein? *A.*—Yes, sir.

Q.—And isn't it true also that Peterson reported with regard to these five hospitals that these hospitals had on their staffs members who were not members of the A. M. A.? *A.*—That is true.

Q.—And so far as his report is concerned, it had been their practice to have doctors on their staffs who were not members of the District Medical Society, the local Society, of the A. M. A.? *A.*—Yes.

Q.—And you had read the reports and noted that fact because it was on that fact you called the attention of those hospitals to the Mundt Resolution. Isn't that so? *A.*—Well, those letters calling attention to the Mundt Resolution were letters that were written in a routine manner by Dr. Peterson, and he always tacked on that reference to the Mundt Resolution.

Q.—You always called attention to the Mundt Resolution when you found as a matter of fact that a hospital was not complying with the policy of the Mundt Resolution? *A.*—Yes, sir.

Q.—And your purpose of tacking it on was to call the hospital's attention to it, wasn't it? *A.*—Certainly.

Q.—In the hope you could get the hospital to comply with the Mundt Resolution? *A.*—To whatever extent it might be practicable.

Q.—And if it didn't comply then it would mean—it would deny courtesy staff privileges to any doctor, no matter how good a doctor he was, unless he joined up with your Society. Isn't that right? *A.*—No, sir, because the resolution does not anywhere state that every single member on the staff should be a member of the Society.

Q.—Well, doesn't it say that it is the opinion of the House of Delegates that physicians, plural, on the staffs of hospitals approved for intern training by the Council of Medical Education in Hospitals should be limited to members in good standing of their local county Medical Societies? It says that, doesn't it? *A.*—Yes, but it goes on and says something else.

Q.—And that House of Delegates likewise requests the Council on Medical Education to take this under advisement? *A.*—Yes.

Q.—Well it was the policy then? *A.*—It was merely a statement of opinion.

Q.—All right. It was a statement of opinion then, if you want to call it that, that the entire staff, the active staff and the courtesy staff of all these hospitals should be limited to members of your Society. Isn't that right? *A.*—That is what the opinion of the House of Delegates was.

Q.—And when you tried to get compliance with that opinion, it meant you were trying to get the hospitals to limit their entire staffs to members of your Society, and to kick off those staffs perfectly good, sound, ethical, upstanding, skilful doctors who didn't want to join your Society. Isn't that right? *A.*—No, sir.

Q.—And as a matter of fact isn't it true that as a result of your letters to those five hospitals in the summer of 1937 you did get those five hospitals substantially to promise you compliance with that restriction? *A.*—No, sir.

Q.—All right. Let us see if you didn't.

MARCH 11—MORNING

TESTIMONY OF WILLIAM DICK CUTTER

CROSS EXAMINATION (RESUMED)

By Mr. Lewin:

Q.—Dr. Cutter, I have had the opportunity of looking at the record of yesterday's proceedings, and I find that in response to questions from Mr. Leahy you testified as follows concerning the action which you or your council took with regard to the other hospitals in Milwaukee after you learned that those doctors headed by Dr. Curtin had been expelled from the local A. M. A. society in Milwaukee because of their connection with a prepayment clinic. Now, you were asked these questions—

Mr. Leahy (interposing):—I object to that. There is no evidence in this case of any prepayment clinic.

Mr. Lewin:—O, yes, there is, Mr. Leahy.

Mr. Kelleher:—The opinion of the Judicial Council which describes this plan in detail is in evidence.

THE COURT:—Regardless of that, put your question, Mr. Lewin.

By Mr. Lewin:

Q.—With regard to those doctors you were asked: "Were those names dropped from the staffs of the other hospitals in Milwaukee in pursuance of anything which your council had done?" And you answered: "No, sir."

Did you mean by that to say that you did nothing with regard to those other hospitals calculated to bring about their being dropped by these other hospitals? *A.*—No, sir.

Q.—That is your testimony? *A.*—Yes.

Q.—And you were asked: "So far as your information is concerned, it was the voluntary act of the hospitals themselves in Milwaukee?" And your answer: "So far as we knew." Did you mean by that to testify that you knew of nothing which you did which might have influenced the governing bodies of those other hospitals in dropping those expelled doctors? *A.*—Yes.

Q.—And you were asked: "What was the only hospital in Milwaukee which retained the five expelled members on its staff?" And you answered: "Mount Sinai." And: "Did you yourself have any personal knowledge with reference to the charges or anything of that sort upon which the doctors had been disciplined in their own medical society?" And you answered: "No, sir." Did you mean by that answer to say that you did not have access to the proceedings of the Judicial Council? Didn't you have the records of the Judicial Council before you? *A.*—I could have if I sought it, but I had no occasion for doing it and I did not seek it.

Q.—As a matter of fact, wasn't the opinion of the Judicial Council immediately transmitted to you? *A.*—It was merely a memorandum stating that the Judicial Council had upheld the action of the local society and the state society, but the reasons for that were not given.

Q.—Didn't that memorandum in your office contain the opinion of the Judicial Council? *A.*—No, only that paragraph that stated the action taken on these doctors who had been expelled was approved.

Q.—Didn't you know that these doctors had been expelled and their expulsion confirmed on the ground that they were connected with a prepayment clinic in Milwaukee? *A.*—I knew they were expelled from their society through participation in an organization deemed to be engaged in unethical practice; what the basis of its operation was I did not know.

Q.—And as a matter of fact, Doctor, I believe you testified that it would not influence your action in regard to Mount Sinai, whatever the cause had been for the expulsion of the doctors, is that correct? *A.*—That is correct.

Q.—If they had been expelled merely because they were connected with a prepayment clinic you would nevertheless have done what you did with reference to Mount Sinai? *A.*—We could not go behind the findings of the Judicial Council.

Q.—Now, let us see if I understand you. If the doctors who were expelled were perfectly skilful, able, professional men, that would not have influenced you with reference to your action at Mount Sinai? *A.*—I can only repeat: We could not go behind the decision of the Judicial Council.

Q.—If the head and front of their offense had simply been that they engaged in certain economic practices which the American Medical Association doesn't like, that would not have influenced you at all in connection with your action in so far as it concerned Mount Sinai?

Mr. Leahy:—I object to that. It is argumentative.

THE COURT:—I think the question perhaps would be all right except for the assumption which it contains.

Mr. Lewin:—I understand, your Honor.

By Mr. Lewin:

Q.—Did you know anything against these men in their professional standing in the community in which they practiced? *A.*—I was aware of the fact that they had been expelled from their local organization.

Q.—You knew nothing about their skill or professional ability? *A.*—No, sir.

Q.—Nothing about their morals? *A.*—No, sir.

Q.—Knew nothing about their professional relations with their patients? *A.*—No, sir.

Q.—So far as you know they were perfectly able, fine doctors, as good as yourself? *A.*—No, sir.

Q.—The only difference was that for their contract practice the Medical Association chose to expel them, but for your contract practice it chose to let you go on?

Mr. Leahy:—That is objected to.

THE COURT:—Yes. Objection sustained.

By Mr. Lewin:

Q.—Then you were asked this by Mr. Leahy: "Did that have anything whatsoever to do,"—speaking of your action with the hospitals—"the action on your part or on the part of the Judicial Council, with the Mundt Resolution?" And you answered: "No, sir." Now, did you mean by that that the action which you took with reference to Mount Sinai was not based on the Mundt Resolution? *A.*—Precisely.

Q.—And did you mean that the action which you took with reference to the other hospitals in Milwaukee in that connection was not based on the Mundt Resolution?

Mr. Leahy:—I object. There is no evidence here that there was any action taken against any other hospital.

THE COURT:—You mean by the American Medical Association?

Mr. Leahy:—Yes.

Mr. Lewin:—I will withdraw the question.

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Q.—Did you have any other authorization from the House of Delegates to tamper with the staffs of hospitals except the Mundt Resolution? *A.*—Yes.

Q.—What was that authority? *A.*—The one authorizing the registry of hospitals, which was approved by the House of Delegates and which stated the staff of any hospital that was registered should be controlled by ethical physicians.

Q.—And you took that to mean that the staffs of hospitals must be limited to those people that the American Medical Association calls ethical? *A.*—We took it to mean that it should be limited to those against whom there were no charges of unethical practice.

Q.—And by "unethical practice" you took it to mean any charges the American Medical Association might bring and your Judicial Council might approve against any doctor? *A.*—Yes.

Q.—And it was on that authority and under the Mundt Resolution that you proceeded against Mount Sinai? *A.*—Yes.

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THE COURT:—He said one of the letters had been based on the Mundt Resolution.

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Q.—But at any rate, acting for the American Medical Association, you did try to induce the Mount Sinai Hospital to kick these doctors off its staff, didn't you? *A.*—I wouldn't say that. May I speak?

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The Witness:—If you will read the letter of Dr. Halstead dated May 5, introduced in evidence yesterday, I think you will get a very clear statement of the Council's disposition.

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Q.—Now, I ask you, did you know Mr. Theodore Wiprud? *A.*—I knew who he was.

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A.—I think that letter was sent from my office.

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Q.—And you read the letter and knew the facts contained therein? *A.*—Yes, sir.

Q.—And isn't it true also that Peterson reported with regard to these five hospitals that these hospitals had on their staffs members who were not members of the A. M. A.? *A.*—That is true.

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Q.—And your purpose of tacking it on was to call the hospital's attention to it, wasn't it? *A.*—Certainly.

Q.—In the hope you could get the hospital to comply with the Mundt Resolution? *A.*—To whatever extent it might be practicable.

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Q.—And that House of Delegates likewise requests the Council on Medical Education to take this under advisement? *A.*—Yes.

Q.—Well it was the policy then? *A.*—It was merely a statement of opinion.

Q.—All right. It was a statement of opinion then, if you want to call it that, that the entire staff, the active staff and the courtesy staff of all these hospitals should be limited to members of your Society. Isn't that right? *A.*—That is what the opinion of the House of Delegates was.

Q.—And when you tried to get compliance with that opinion, it meant you were trying to get the hospitals to limit their entire staffs to members of your Society, and to kick off those staffs perfectly good, sound, ethical, upstanding, skilful doctors who didn't want to join your Society. Isn't that right? *A.*—No, sir.

Q.—And as a matter of fact isn't it true that as a result of your letters to those five hospitals in the summer of 1937 you did get those five hospitals substantially to promise you compliance with that restriction? *A.*—No, sir.

Q.—All right. Let us see if you didn't.

March 11—Morning

Testimony of William Dick Cutter

Cross Examination (Resumed)

By Mr. Lewin:

Q.—Dr. Cutter, I have had the opportunity of looking at the record of yesterday's proceedings, and I find that in response to questions from Mr. Leahy you testified as follows concerning the action which you or your council took with regard to the other hospitals in Milwaukee after you learned that those doctors headed by Dr. Curtin had been expelled from the local A. M. A. society in Milwaukee because of their connection with a prepayment clinic. Now, you were asked these questions—

Mr. Leahy (interposing):—I object to that. There is no evidence in this case of any prepayment clinic.

Mr. Lewin:—O, yes, there is, Mr. Leahy.

Mr. Kelleher:—The opinion of the Judicial Council which describes this plan in detail is in evidence.

The Court:—Regardless of that, put your question, Mr. Lewin.

By Mr. Lewin:

Q.—With regard to those doctors you were asked: "Were those names dropped from the staffs of th: other hospitals in Milwaukee in pursuance of anything which your council had done?" And you answered: "No, sir."

Did you mean by that to say that you did nothing with regard to those other hospitals calculated to bring about their being dropped by these other hospitals? *A.*—No, sir.

Q.—That is your testimony? *A.*—Yes.

Q.—And you were asked: "So far as your information is concerned, it was the voluntary act of the hospitals themselves in Milwaukee?" And your answer: "So far as we knew." Did you mean by that to testify that you knew of nothing which you did which might have influenced the governing bodies of those other hospitals in dropping those expelled doctors? *A.*—Yes.

Q.—And you were asked: "What was the only hospital in Milwaukee which retained the five expelled members on its staff?" And you answered: "Mount Sinai." And: "Did you yourself have any personal knowledge with reference to the charges or anything of that sort upon which the doctors had been disciplined in their own medical society?" And you answered: "No, sir." Did you mean by that answer to say that you did not have access to the proceedings of the Judicial Council? Didn't you have the records of the Judicial Council before you? *A.*—I could have if I sought it, but I had no occasion for doing it and I did not seek it.

Q.—As a matter of fact, wasn't the opinion of the Judicial Council immediately transmitted to you? *A.*—It was merely a memorandum stating that the Judicial Council had upheld the action of the local society and the state society, but the reasons for that were not given.

Q.—Didn't that memorandum in your office contain the opinion of the Judicial Council? *A.*—No, only that paragraph that stated the action taken on these doctors who had been expelled was approved.

Q.—Didn't you know that these doctors had been expelled and their expulsion confirmed on the ground that they were connected with a prepayment clinic in Milwaukee? *A.*—I knew they were expelled from their society through participation in an organization deemed to be engaged in unethical practice; what the basis of its operation was I did not know.

Q.—And as a matter of fact, Doctor, I believe you testified that it would not influence your action in regard to Mount Sinai, whatever the cause had been for the expulsion of the doctors, is that correct? *A.*—That is correct.

Q.—If they had been expelled merely because they were connected with a prepayment clinic you would nevertheless have done what you did with reference to Mount Sinai? *A.*—We could not go behind the findings of the Judicial Council.

Q.—Now, let us see if I understand you. If the doctors who were expelled were perfectly skilful, able, professional men, that would not have influenced you with reference to your action at Mount Sinai? *A.*—I can only repeat: We could not go behind the decision of the Judicial Council.

Q.—If the head and front of their offense had simply been that they engaged in certain economic practices which the American Medical Association doesn't like, that would not have influenced you at all in connection with your action in so far as it concerned Mount Sinai?

Mr. Leahy:—I object to that. It is argumentative.

The Court:—I think the question perhaps would be all right except for the assumption which it contains.

Mr. Lewin:—I understand, your Honor.

By Mr. Lewin:

Q.—Did you know anything against these men in their professional standing in the community in which they practiced? *A.*—I was aware of the fact that they had been expelled from their local organization.

Q.—You knew nothing about their skill or professional ability? *A.*—No, sir.

Q.—Nothing about their morals? *A.*—No, sir.

Q.—Knew nothing about their professional relations with their patients? *A.*—No, sir.

Q.—So far as you know they were perfectly able, fine doctors, as good as yourself? *A.*—No, sir.

Q.—The only difference was that for their contract practice the Medical Association chose to expel them, but for your contract practice it chose to let you go on?

Mr. Leahy:—That is objected to.

THE COURT:—Yes. Objection sustained.

By Mr. Lewin:

Q.—Then you were asked this by Mr. Leahy: "Did that have anything whatsoever to do,"—speaking of your action with the hospitals—"the action on your part or on the part of the Judicial Council, with the Mundt Resolution?" And you answered: "No, sir." Now, did you mean by that that the action which you took with reference to Mount Sinai was not based on the Mundt Resolution? *A.*—Precisely.

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THE COURT:—You mean by the American Medical Association?

Mr. Leahy:—Yes.

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Q.—Didn't that memorandum in your office contain the opinion of the Judicial Council? *A.*—No, only that paragraph that stated the action taken on these doctors who had been expelled was approved.

Q.—Didn't you know that these doctors had been expelled and their expulsion confirmed on the ground that they were connected with a prepayment clinic in Milwaukee? *A.*—I knew they were expelled from their society through participation in an organization deemed to be engaged in unethical practice; what the basis of its operation was I did not know.

Q.—And as a matter of fact, Doctor, I believe you testified that it would not influence your action in regard to Mount Sinai, whatever the cause had been for the expulsion of the doctors, is that correct? *A.*—That is correct.

Q.—If they had been expelled merely because they were connected with a prepayment clinic you would nevertheless have done what you did with reference to Mount Sinai? *A.*—We could not go behind the findings of the Judicial Council.

Q.—Now, let us see if I understand you. If the doctors who were expelled were perfectly skilful, able, professional men, that would not have influenced you with reference to your action at Mount Sinai? *A.*—I can only repeat: We could not go behind the decision of the Judicial Council.

Q.—If the head and front of their offense had simply been that they engaged in certain economic practices which the American Medical Association doesn't like, that would not have influenced you at all in connection with your action in so far as it concerned Mount Sinai?

Mr. Leahy:—I object to that. It is argumentative.

The Court:—I think the question perhaps would be all right except for the assumption which it contains.

Mr. Lewin:—I understand, your Honor.

By Mr. Lewin:

Q.—Did you know anything against these men in their professional standing in the community in which they practiced? *A.*—I was aware of the fact that they had been expelled from their local organization.

Q.—You knew nothing about their skill or professional ability? *A.*—No, sir.

Q.—Nothing about their morals? *A.*—No, sir.

Q.—Knew nothing about their professional relations with their patients? *A.*—No, sir.

Q.—So far as you know they were perfectly able, fine doctors, as good as yourself? *A.*—No, sir.

Q.—The only difference was that for their contract practice the Medical Association chose to expel them, but for your contract practice it chose to let you go on?

Mr. Leahy:—That is objected to.

THE COURT:—Yes. Objection sustained.

By Mr. Lewin:

Q.—Then you were asked this by Mr. Leahy: "Did that have anything whatsoever to do,"—speaking of your action with the hospitals—"the action on your part or on the part of the Judicial Council, with the Mundt Resolution?" And you answered: "No, sir." Now, did you mean by that that the action which you took with reference to Mount Sinai was not based on the Mundt Resolution? *A.*—Precisely.

Q.—And did you mean that the action which you took with reference to the other hospitals in Milwaukee in that connection was not based on the Mundt Resolution?

Mr. Leahy:—I object. There is no evidence here that there was any action taken against any other hospital.

THE COURT:—You mean by the American Medical Association?

Mr. Leahy:—Yes.

Mr. Lewin:—I will withdraw the question.

By Mr. Lewin:

Q.—Did you have any other authorization from the House of Delegates to tamper with the staffs of hospitals except the Mundt Resolution? *A.*—Yes.

Q.—What was that authority? *A.*—The one authorizing the registry of hospitals, which was approved by the House of Delegates and which stated the staff of any hospital that was registered should be controlled by ethical physicians.

Q.—And you took that to mean that the staffs of hospitals must be limited to those people that the American Medical Association calls ethical? *A.*—We took it to mean that it should be limited to those against whom there were no charges of unethical practice.

Q.—And by "unethical practice" you took it to mean any charges the American Medical Association might bring and your Judicial Council might approve against any doctor? *A.*—Yes.

Q.—And it was on that authority and under the Mundt Resolution that you proceeded against Mount Sinai? *A.*—Yes.

Mr. Leahy:—We object. He has just denied that the Mundt Resolution was the basis for the action, and now Mr. Lewin has incorporated and added the Mundt Resolution to this other. He said he invoked the registered hospitals regulations which had been adopted by the House of Delegates. Now you ask him if it wasn't on the basis of that and the Mundt Resolution.

THE COURT:—He said one of the letters had been based on the Mundt Resolution.

By Mr. Lewin:

Q.—But at any rate, acting for the American Medical Association, you did try to induce the Mount Sinai Hospital to kick these doctors off its staff, didn't you? *A.*—I wouldn't say that. May I speak?

Mr. Lewin:—Yes, you may explain your answer.

The Witness:—If you will read the letter of Dr. Halstead dated May 5, introduced in evidence yesterday, I think you will get a very clear statement of the Council's disposition.

By Mr. Lewin:

Q.—Didn't you take the same kind of action that you took toward Mount Sinai with the other hospitals in Milwaukee? *A.*—No. sir.

Q.—Now, I ask you, did you know Mr. Theodore Wiprud? *A.*—I knew who he was.

Q.—Isn't he the executive secretary of the District Medical Society and before that wasn't he the executive secretary of the Milwaukee Society? *A.*—Yes.

Q.—Didn't you have authority to write to Mr. Wiprud in regard to these doctors being on the staff of these hospitals in Milwaukee? *A.*—Yes; I think such a letter was sent.

Q.—Didn't you write:

"I should like to inquire (1) what are the names of the physicians who were recently expelled from your County Medical Society because of their connection with an organization fostering unethical practice, (2) have they made any appeal to the County Medical Society, (3) when was the action taken against them and how much time do they have in which they may make an appeal, (4) are they all, or any of them, and which ones, engaged in active service on the staff of either of the Milwaukee County hospitals.

"I would like details in this connection."

A.—I think that letter was sent from my office.

Q.—Didn't you want that information from Mr. Wiprud so you could approach the other Milwaukee hospitals in the same way as you had approached Mount Sinai? *A.*—We wanted the information and got it, but we didn't approach the other hospitals.

Q.—Didn't you seek that information so that you would be in a position to approach the other hospitals if they had retained these physicians on their staff? *A.*—We might have.

Q.—And if you had used it that way you would be using it to kick those doctors off those staffs, would you not? *A.*—That is not a fair statement.

Q.—You would have used it to induce those hospitals who were free, independent, private hospitals, free agencies, to take those doctors off their staff list under an implied threat that if they didn't you would withdraw their registration approval? *A.*—We stated in the letter to which I just referred that we did not pretend to tell any hospital, but if they voluntarily asked for the Council's approval they should be willing to follow the recommendation of the Council.

Q.—But, as a matter of fact, didn't you want to interfere with them and bring about the situation in Milwaukee where those doctors, for some reason which you say you do not know, could not go into any of the private hospitals in Milwaukee? *A.*—We didn't wish to bring about such a situation as that.

Q.—Didn't you want to bring about a situation where none of those doctors so expelled could go into any one of the registered hospitals in Milwaukee to practice their profession? *A.*—No, sir.

Q.—Didn't you want to induce those hospitals, if they had retained them on their staffs up to that time, to expel them from their staffs? *A.*—No, sir.

Q.—Why did you want this information you asked of Wiprud, then? *A.*—Because we wanted to know whether we should grant approval to those hospitals.

Q.—In other words, you were prepared to withdraw approval of any hospital which continued with these doctors? *A.*—Yes.

Q.—But if they got rid of them you would continue your approval of such institutions? *A.*—Yes.

Q.—Do you call that smoking out doctors from the staffs of those hospitals or not? *A.*—No.

Q.—Is this not the answer you got from Mr. Wiprud: I show you a photostatic copy of a letter dated July 3, 1936, and ask you if this is not his reply. (Handing document to witness.) This is in response to your letter? *A.*—I think so.

Q.—Does that contain the information which you sought? *A.*—Yes.

Mr. Lewin:

"Dear Dr. Cutter:

"I am pleased to reply to your letter of July the second, inquiring about the physicians recently expelled from the Society.

"(1) The doctors expelled for participating in what is known as the 'Milwaukee Medical Center' are A. L. Curtin, H. C. Dallwig, J. E. Rueth, G. A. Sullivan, H. F. Wolters.

"(2) They were expelled after several hearings before the Board of Directors of this Society. Their counsel made an appeal to the Council of the State Medical Society, which was heard last week.

"No action was taken because of the necessity of the individual members of the Council reading some 800 pages of testimony covering the hearings held here.

"(3) The action against these men was begun by this Society on Feb. 15, 1936, at a special meeting of our Board of Directors. Charges were preferred against the first three men on March 20, 1936, and they were given until March 27 to file their answers, and were heard on March 30th. Action against Dr. G. A. Sullivan was begun on March 2, 1936, and charges against him were heard on April 25, 1936. Action against Dr. H. F. Wolters was began at the meeting of our Board of Directors on April 28, 1936; charges were preferred against him on June 3, and he was heard on June 5, 1936.

"(4) Some of the hospitals in Milwaukee County require that all physicians doing work in their institutions, regardless of whether they are staff members, must hold membership in the Medical Society. Others require that only members of their regular staffs be members of the Society.

"We understand that those physicians participating in the so-called Medical Center are at present working in St. Luke's, Mount Sinai and Misericordia hospitals. We have notified these hospitals that these doctors are no longer members of the Society. In the instance of Mount

Sinai, we have been informed that if the American Medical Association takes the position that the hospital will not be recognized for intern training they will not allow these physicians to continue working there.

"We have been advised that St. Joseph's Hospital has notified these men that they can no longer work there after July 15th because they are not members of the Medical Society.

"May I suggest, Dr. Cutter, that you have a talk with Dr. Rock Sleyster relative to this situation? He is entirely familiar with it. He sat in on one of our Board meetings when these men were first talked to about their project, and he heard the appeal to the State Society, also.

"Naturally, our Board is anxious that your Council support its stand against these physicians because of their unethical conduct."

By Mr. Lewin:

Q.—The pith of that letter is that here were doctors working on the staffs of these hospitals; some of them would be discharged by the hospitals because discharged from the medical society. Others had taken the position that the hospitals will not keep them on their staffs if your Council takes the position that such hospitals will not be recognized for intern training if they continued working there.

Mr. Leahy:—I object to that. The letter speaks for itself.

THE COURT:—Yes, I think so.

By Mr. Lewin:

Q.—Now, he wanted support for his stand and weren't you willing to give him support along those lines? *A.*—We stated to him what the policy of the Council would be.

Q.—By the way, opposite the names of these doctors on that letter appear certain items in handwriting. You see after the name "Dr. Curtin" you have the name "Misericordia, Attending Surgical Staff, Mount Sinai." That shows he was still on the staff of those hospitals in Milwaukee? *A.*—Yes.

Q.—After Dr. Wolters you have "Attending Staff, Mount Sinai"? *A.*—Yes.

Q.—And then some of the other doctors' affiliations you have indicated? *A.*—Yes.

Q.—Who wrote those notes: Were they done in your office? *A.*—I do not know.

Q.—In other words, wouldn't it be the duty of your office to check to see which ones of these doctors were connected with the Milwaukee hospitals? *A.*—They may have done that.

Q.—Wouldn't that be the natural thing? Wouldn't they have done that preparatory to your taking action in regard to the hospitals on whose staffs they appear? *A.*—They might have done so.

Q.—Didn't you write to Wiprud on July 9, 1936, thanking him for the information and saying that the Council on Medical Education and Hospitals "will, without question, adhere to the instructions of the House of Delegates in requiring that hospitals approved for intern training have on the staff only physicians that are members of the county medical society"? Didn't you say that? *A.*—I don't remember.

Q.—Isn't this a copy of your letter? *A.*—I think it is.

Q.—And in the paragraph I have read weren't you talking about the Mundt Resolution and not about registration? *A.*—About both of them.

Q.—Weren't you talking about intern training? *A.*—Yes.

Q.—Wasn't the Mundt Resolution directed to that? *A.*—That approval for such training was contingent on registration.

Q.—You weren't invoking the Mundt Resolution up to this point, at any rate? *A.*—Both of them.

Q.—Not alone this registration restriction? *A.*—That is right.

Q.—Did you say this, also:

"My impression is that the Council's action regarding Milwaukee hospitals should be held in abeyance pending the outcome of the appeal of the expelled physicians mentioned in your letter."

A.—Yes.

Q.—Were you talking about the other hospitals in addition to Mount Sinai? *A.*—Any hospital.

Q.—In other words you were preparing your guns for the other hospitals as well as Mount Sinai? *A.*—That refers to any hospital that might be involved.

Q.—Misericordia, St. Luke's, St. Joseph's, the Passavant and the rest of the hospitals, in addition to Mount Sinai? *A.*—Provided they continued to keep on their staffs men who were found by the Council to be guilty of unethical practice.

Q.—Did you write this letter of July 17, 1936 to Dr. Rock Sleyster (handing document to witness)? *A.*—I think so.

Q.—Didn't you say in that letter:

"I am enclosing a copy of a letter which is being sent to St. Luke's, Mount Sinai, and Misericordia hospitals, following receipt of your recent communication.

"We have used this same method with respect to quite a number of hospitals and the response has, in almost all instances, been completely satisfactory.

"We might add that in view of the monumental task associated with analyses of staffs, we have started by concentrating on the attending or voting staff, with the hope that when that situation is cleared up we can turn our attention to junior and courtesy groupings.

"Such results as we obtain through this and other methods will be communicated to you as promptly as possible."

Wasn't that Dr. Sleyster the gentleman whom Mr. Wiprud asked you to communicate with in regard to the Curtin case? *A.*—Yes.

Q.—And hadn't he written you with regard to the status of the other Milwaukee hospitals? *A.*—I presume this refers to some of the others.

Q.—On that basis? *A.*—Yes.

Q.—And didn't you enclose this in your letter to Dr. Sleyster, which was the letter you said you were going to send to those other hospitals, as well as Mount Sinai? *A.*—Yes.

Q.—And didn't you send this letter to the other hospitals as well as Mount Sinai? *A.*—I suppose so.

Q.—Is this changing your testimony a little from what you gave yesterday? *A.*—Yes.

Mr. Lewin:—This letter, which is a form letter, reads:

"It has come to our attention, through correspondence with the Medical Society of Milwaukee County, that certain physicians have been expelled from that society through participation in an organization known as 'Milwaukee Medical Center.' It is also reported that certain of these same individuals continue as members of your attending staff with hospital privileges.

"May we call your attention to the recent resolution passed by the House of Delegates of the American Medical Association, as follows:"

By Mr. Lewin:

Q.—And then don't you quote the Mundt Resolution? And then don't you follow that up with:

"What possibility, if any, exists for observance of the principle laid down in this resolution?"

Did you say that? *A.*—Yes.

Q.—It is your testimony, then, that up to this point, with regard to these doctors, you were invoking the Mundt Resolution not only against Mount Sinai but against the other hospitals in Milwaukee? *A.*—Yes.

Q.—And you were going to do that because "this method had worked well in a great many other cases"? *A.*—Yes.

Q.—And that by doing so you were thus able to get hospitals to kick off doctors from their staffs and confine themselves to those doctors whom your society, for any reason, chose or was willing to permit to remain as members of such staff? *A.*—Yes.

Q.—To confine staffs to those whom the American Medical society was willing should remain? *A.*—If the hospitals wished to have our approval.

Q.—Here is a letter already in evidence to Mount Sinai; it conforms to the letter I have just read? *A.*—Yes.

Q.—And here is Dr. Thompson's reply, is it not; which was already in evidence. *A.*—Yes.

Q.—I am not going to go through the rest of this Mount Sinai—it speaks for itself. I am going to return to these other hospitals which you said on direct you didn't approach. Is this the letter you sent to St. Luke's Hospital? *A.*—Yes.

Q.—And it conforms to that same form, doesn't it? *A.*—Yes.

Q.—Wasn't your purpose in sending that to St. Luke's identical with your purpose in sending that first one to Mount Sinai? *A.*—Yes.

Q.—I will ask you whether that is not the same letter you sent to the Misericordia Hospital the same date? *A.*—Yes.

Q.—And identical with the letter you had sent to Mount Sinai? *A.*—Yes.

Q.—And sent for the same purpose? *A.*—Yes.

Q.—And didn't you cause a memorandum to be made of the staff affiliations of these doctors and of the staffs of all the various hospitals in Milwaukee at that time? *A.*—Yes.

Q.—Is that the memorandum which I hand you, dated July 30, 1936? *A.*—Yes.

Q.—Wasn't that done contemporaneously with this attack on these expelled doctors? *A.*—It was done contemporaneously with the preparation of those letters you have just read.

Q.—And wasn't it done contemporaneously with your action toward denying these hospitals your approval? *A.*—Yes.

Q.—And didn't it make a thorough job of all the large hospitals in Milwaukee and take up each one in turn? *A.*—It mentions eight hospitals.

Q.—And they are Columbia, Evangelical Deaconess, the Passavant, Misericordia, Mount Sinai, St. Joseph's, St. Luke's, and St. Mary's hospitals? *A.*—Yes.

Q.—So you were then checking on all those hospitals in connection with these expelled doctors? *A.*—Yes.

Q.—Didn't you receive this letter back from the Misericordia Hospital which I now show you? *A.*—Yes.

Mr. Lewin:—This is your letter. You wrote again to Misericordia on October 26, did you not?

The Witness:—Yes.

By Mr. Lewin:

Q.—Didn't you say:

"This is in continuation of our previous correspondence about qualifications for staff membership in Misericordia Hospital. We have been informed that the Council of the Wisconsin State Medical Society has upheld the action of the Milwaukee County Medical Society in expelling certain physicians for unethical behavior.

"How does this action affect Misericordia Hospital? Are all members on your staff in good standing with the Milwaukee County Medical Society or eligible for membership in that society?"

And then didn't you receive this reply from Misericordia Hospital, dated Nov. 10, 1936? *A.*—Yes.

Q.—Didn't the hospital write back on that date:

"Dear Dr. Cutter:

"In response to your request of October 26, we wish to apologize for this long delay. A special executive meeting was called to take up this matter.

"We do have some staff members who have been expelled by the Milwaukee County Medical Society for what they deemed unethical behavior. We have been awaiting a final decision from the American Medical Association before taking final steps in requesting their resignation. We shall appreciate having the opinion of the A. M. A. on this matter."

And in response to that, didn't you send the Misericordia Hospital your opinion as to what that hospital should do? *A.*—Yes.

Q.—Didn't you intend by this letter I have just shown you to put pressure on Misericordia Hospital to follow the policies of your counsel with regard to limiting its staff? *A.*—Yes.

Q.—Didn't you say this:

"We are taking this means to answer two letters recently received from Misericordia Hospital.

"The first of your letters dated November 10 asks for an opinion from the American Medical Association regarding the affiliation of physicians charged with unethical behavior on the staffs of hospitals which it registers. Marked copies of the 'Essentials' for hospital registration and of the 'Code of Ethics' of the American Medical Association are incorporated for your convenience.

"Our attention has also been called to your letter of October 29 which informs us of certain changes in your house staff program. On the basis of this information, we assume that you have decided to abandon intern training for the time being. We believe it best for all concerned, therefore, to omit mention of Misericordia Hospital in our published approved internship list in order that prospective interns may not be misled into believing that appointments are still available at Misericordia Hospital.

"If this is not the proper interpretation placed on your recently submitted information, we feel sure that you will communicate with us further."

A.—Yes.

Q.—And didn't you immediately get this letter of Dec. 5, 1936 from Misericordia:

"In reply to your letter of December 1, we wish to state that the necessary steps will be immediately taken to notify our staff physicians who are violating the 'Code of Ethics,' that we find it necessary to refuse their patients accommodation in our hospital."

Wasn't that the promise you sought? *A.*—That is what she said.

Q.—Wasn't that what you were after, to get that sort of a promise from her? *A.*—I think so.

Q.—Then after you got that, didn't you write back and tell her everything was jake—

Mr. Leahy:—Read the rest of the letter.

Mr. Lewin:—I will be glad to.

"May we state that our recent communication regarding internship was misinterpreted. We have no desire to discontinue offering internship service at Misericordia. In fact, we are better prepared now than ever before to offer a more complete intern service, since our daily average of patients has perceptibly increased. We have been thinking seriously of maintaining three interns.

"The reason for having the Resident and two externs this year is due to the fact that we were too late in making our requests. The prospective interns had already received their appointments. The only available course left to us was to accept a resident and two externs. We hope that this arrangement meets with your approval, and that an internship at Misericordia may remain on your approved list.

"We appreciate your kind advice in these matters, and will take every means to meet your requirements."

I am glad you called my attention to that; it does show that there was another objection that you had to Misericordia in addition to the one referred to in the first paragraph. I think you are entitled to it.

By Mr. Lewin:

Q.—And after you got that didn't you write back, in substance that everything was O. K. and that the hospital would be continued on the approved list? *A.*—Yes.

Q.—This is your letter dated Dec. 11, 1936? *A.*—Yes.

Q.—Now, didn't I understand you to testify yesterday that your Council on Medical Education and Hospitals is responsible directly to the House of Delegates? *A.*—Yes.

Q.—And that it doesn't work in close cooperation with the enforcement of the Judicial Council pronouncements? *A.*—Yes.

Q.—Now let me read you, let me call your attention to an action of the House of Delegates in 1935. It is headed "Report on Judicial Council."

"Your committee notes that as a result of the discussions and pronouncements of the Judicial Council there has been a steady improvement in the methods by which medical service is made available to the public. It regrets, however, that much remains to be accomplished, and it believes that the time has arrived when we should insist on the strict enforcement of the Principles of Medical Ethics by all constituent societies for, as so well stated by the Council, the Principles of Medical Ethics is accepted as a guide in professional relations and intelligently and faithfully followed by a large majority of the profession. There are, however, some isolated instances in which this is not true. The delinquents comprise individuals, certain groups and a few institutions. Solicitation of patients, particularly in industrial practice, unfair competition by clinics, and groups, and unethical and unlawful practice of medicine by hospitals, dispensaries, insurances and universities furnish outstanding examples. (29-30) (41)

"The Council further states, 'Public confidence in our avowed declarations for medical control over things medical cannot be successfully cultivated or maintained unless we exclude or remove from the ranks of our organized profession those who ignore our ethical code, especially as it applies to the true professional spirit in our relations with each and every patient.' It will be recalled, the Council continues, that 'last year the House of Delegates amended its Principles of Medical Ethics so clearly that there can be no misunderstanding of the conditions mentioned but the present method of procedure in Judicial charges makes the pronouncement ineffective.' Your committee, therefore, deems it advisable to extend the origination of charges, in certain situations manifestly too great for county societies to handle, to the state association and possibly in rare instances to the national organization. Your committee agrees with the Judicial Council that, when the House of Delegates sees fit to extend such jurisdiction in matters of discipline, the Council should have the duties and powers then enjoined on it but should not at any time be expected to function in an ex parte capacity.

"The Judicial Council again reminds us that Medical ethics follow every member of the American Medical Association, whether in hospitals, in universities, in clinics or in private practice. While the member is at all times subject to the ethics of the profession, the hospital, university or clinic, as an entity, is not. Through the Council on Medical Education and Hospitals, in cooperation with the Judicial Council, sufficient oversight, persuasion and, if needed, pressure can be brought to accomplish that which the physicians in such institutions, as individuals, cannot. With such concerted action between the two Councils and with such enforcing legislation as has been suggested, many harmful and obnoxious practices would cease and others, not now presenting any large problem, would be prevented."

"Your committee, therefore, recommends that the Council on Medical Education and Hospitals"—

that is your council, isn't it? *A.*—Yes.

Q.—"Together with the Judicial Council"—That is the one which passes on expulsion proceedings, isn't it? *A.*—Yes.

Q.—"Formulate a plan whereby all those"—That means the hospitals? *A.*—Yes.

"Associated in the delivery of medical service be included in the investigation of hospitals for classification and that approval be based in the future on the ethical practices of the institution as well as on its scientific work."

Q.—Now, you were aware of that resolution, were you not? *A.*—Yes.

Q.—And didn't you take action in connection with it? Were you familiar with this report of the Judicial Council made to the House of Delegates in 1937 in connection with that resolution asking for cooperation between your council and the Judicial Council?

"The 1935 House of Delegates recommended that the 'Council on Medical Education and Hospitals, together with the Judicial Council, formulate a plan whereby all those associated in the delivery of medical service be included in the investigation of hospitals for classification and that approval be based in the future on the ethical practices in the institution as well as on its scientific work.' Consequently the Judicial Council met with the Council on Medical Education and Hospitals in February this year and after thorough discussion presented the basis of a plan for the desired cooperation of the two councils. The problem, which involves many difficulties, will require some time for its solution."

Do you remember that report? *A.*—Yes.

Q.—Is it true? *A.*—Yes.

Q.—Did you meet with the Judicial Council to formulate a plan of cooperation between the two, whereby you could force

on the hospitals your so-called medical ethics? *A.*—That was the purpose of the resolution of the Judicial Council.

Q.—And in that meeting didn't you work out a plan with the Judicial Council whereby you would enforce these registration requirements and the Mundt Resolution against hospitals which the Judicial Council had passed on and against doctors which the Judicial Council had expelled? *A.*—No, sir, we did not discuss that.

Q.—You mean to say that this action which you took in connection with Mount Sinai, in connection with all these other hospitals in Milwaukee was not done pursuant to the plan which had been worked out? *A.*—Absolutely had nothing to do with it.

Q.—I think I can be a little more speedy about those things. I just want to call your attention to the fact that you approached the Passavant in the fall of 1936 in the same way as the others. That is the same as your other letters? *A.*—Yes.

Q.—And then didn't you approach the State Medical Society of Wisconsin again in the fall of 1936 with reference to the doctors Curtin, Dallwig, Rueth, and Sullivan? *A.*—I think we did.

Q.—Is that your letter to that society, dated Oct. 14, 1936? *A.*—Yes.

Q.—Aren't you still seeking information about their status so that you could enforce this restriction on the hospitals? *A.*—Yes, we were still seeking information.

Q.—And for the purpose of enforcement against these hospitals? *A.*—Yes.

Q.—This was to the secretary, State Medical Society of Wisconsin, Mr. J. G. Crownhart, dated Oct. 14, 1936:

"Dear Mr. Crownhart: We have understood from various parties in Milwaukee that the physicians who were expelled from the Milwaukee County Medical Society for participation in the Milwaukee Medical Center have made an appeal to the council of the state medical society. The physicians referred to are A. L. Curtin, H. C. Dallwig, J. E. Rueth, G. A. Sullivan, H. F. Wolters.

"Can you tell me whether the council of the state society has handed down any decision in this matter?

"For your information I may say that the approval of certain hospitals for intern training is jeopardized because of the presence of some of these men on their staffs."

Q.—What is your testimony now as to whether you were enforcing the Mundt Resolution against these hospitals? *A.*—I still say they would be jeopardized if taken off the register.

Q.—And if you enforced the Mundt Resolution the effect would also be to jeopardize their position? *A.*—We never attempted to do that.

Q.—Didn't Mr. Crownhart give you this reply to your letter, providing you with more ammunition—

Mr. Leahy (interposing):—I object to the characterization.

THE COURT:—I think those remarks are improper.

Mr. Lewin:—Of course, my point was to explain—

THE COURT:—Yes, but I don't think you should characterize the testimony in that way.

Mr. Lewin:—Yes, your Honor. The point is: A word to the wise is sufficient. Speak softly and use a big stick is an old method—

THE COURT:—We won't argue that, either.

By Mr. Lewin:

Q.—Didn't Mr. Crownhart reply:

"I have your letter of October 14 as to the present status of the following named physicians in Milwaukee: A. L. Curtin, H. C. Dallwig, J. E. Rueth, G. A. Sullivan, H. F. Wolters. These physicians were expelled from the Medical Society of Milwaukee County and on appeal to the Council of this Society, the attached decision sustaining the expulsion was handed down on September 8. It has been my informal understanding that the physicians concerned would appeal to the Judiciary Council of the American Medical Association. Perhaps you had better check with Dr. West on this point to ascertain whether the appeal has been filed in fact."

You did get an enclosure telling you just what the charges were against these doctors? *A.*—I don't remember what was in the enclosure.

Q.—Didn't he say he was enclosing the "attached decision"? *A.*—Yes.

Q.—And whatever it was you got it? *A.*—Yes.

Q.—Now, you told us that C. M. P. is Dr. Peterson one of your inspectors operating under your supervision? *A.*—Yes.

Q.—And who is Mr. Sanger? *A.*—He is the director of the Hospital Division of the Council.

Q.—And he operates also under your supervision? *A.*—Yes.

Q.—Now, let me show you what purports to be a memorandum from Dr. Peterson to Mr. Sanger dated Oct. 14, 1936 in this same matter. Is this the memorandum from Dr. Peterson to Mr. Sanger? *A.*—It may be.

Q.—Wouldn't he be authorized to say that? *A.*—No.

Q.—Wouldn't this throw some light on the motives of the Council in that connection?

Mr. Leahy:—I object to this: The witness does not identify it.

Mr. Lewin:—I will ask him about this.

Mr. Leahy:—May I show this to your Honor?

THE COURT:—Yes. The jury may have a few minutes recess.

Counsel for all parties approached the bench and conferred with the Court.

By Mr. Lewin:

Q.—After receiving information from Dr. Crownhart of the State Society that they had upheld the action of the Milwaukee Society; after receiving a copy of that decision, you then wrote the rest of the Milwaukee hospitals again, didn't you? *A.*—I don't recall.

Q.—Didn't you write, on Oct. 27, 1936, to St. Joseph's Hospital, and isn't this your letter which I hand you? That is your signature? *A.*—Yes.

Q.—Did you say in that letter:

"We have recently been notified that certain physicians have been expelled from the Milwaukee County Medical Society for unethical practices and that the action of this constituency has been upheld by the Council of the State Medical Society of Wisconsin.

"How does this action affect St. Joseph's Hospital? Are all members on your staff in good standing with the Milwaukee County Medical Society or eligible for membership in that society? Very truly yours, William Dick Cutter."

And didn't you get this reply? *A.*—Yes.

Mr. Leahy:—Will you show this to the Court, please?

Counsel for all parties approached the bench and conferred with the Court.

By Mr. Lewin:

Q.—This reply which I think you received from St. Joseph's dated Nov. 2, 1936 reads:

"Dear Doctor: In reply to your letter of October 27th in regard to certain physicians who were expelled from the county medical society, I have only to say that they are no longer members of our staff but have also been barred from working in our hospital.

"This is no great punishment to them as there are other hospitals in the city who welcome them with open arms."

After you got that letter, didn't you continue with your correspondence with Mount Sinai, which has already been reviewed in evidence, and your correspondence with the other hospitals? *A.*—I may have continued with Mount Sinai, but I don't recall about the others.

Q.—Here is a letter which antedates that letter, October 26, to St. Luke's; isn't that identical with your letter to St. Joseph's? *A.*—Yes.

Q.—And isn't this your follow-up: When you received no reply, didn't you follow that up again to see whether they were permitting these doctors on their staff? Isn't this yours, November 12, 1936? *A.*—That is right.

Q.—Isn't that after you got this letter from St. Joseph's saying that some hospitals were letting them in? *A.*—Yes.

Q.—Didn't you finally get assurance that your wishes were met in St. Luke's Hospital: I show you this letter dated Nov. 14, 1936. Did you receive that? *A.*—Yes.

Q.—And here is the correspondence you had with St. Luke's. I won't read this first letter, of October 26, because it is exactly like the one you sent to St. Joseph's, isn't it? *A.*—Yes.

Q.—And here is your follow-up letter of Nov. 12, 1936 to St. Luke's:

"My dear Miss Jacobson: On October 26 we wrote you regarding our mutual problem of physicians who have been expelled by your County Medical Society.

"We have not heard from you, and trust you will send us your reply."

And doesn't the reply say that they have no members of the hospital who are not members of the Milwaukee Medical Society? *A.*—Yes.

Q.—Didn't you do the same thing with the Evangelical Deaconess Hospital? Didn't you write the same letter on October 27 to that hospital you wrote to St. Joseph's, and send them the letter? *A.*—Apparently.

Q.—And didn't you do the same thing with Passavant Hospital, writing them substantially the same letter on Oct. 27, 1936, the same day you wrote the others? *A.*—This is a little different letter.

Q.—Is there any substantial difference: Shall I read it? This is to the Passavant Hospital:

"Oct. 27, 1936. Rev. Herman L. Fritschel, Supt., Milwaukee Hospital, 'The Passavant,' Milwaukee, Wis. Dear Reverend Fritschel: We have recently been notified that certain physicians have been expelled from

the Milwaukee County Medical Society for unethical practices and that the action of this constituency has been upheld by the Council of the State Medical Society of Wisconsin.

"We have received no intimation that the expulsion of these men affects the staff roster at 'The Passavant' in any way. However, we are making inquiry of all approved hospitals in Milwaukee to learn if all members on your staff are now in good standing in the Milwaukee County Medical Society or eligible for membership therein."

And I think you received a satisfactory response from the Passavant Hospital, did you not? *A.*—Yes.

Q.—Is this it, dated Nov. 3, 1936, from that hospital? *A.*—Yes.

Q.—And didn't you receive from the Misericordia Hospital evidence that it was going to respect and was acting in response to your suggestion? I hand you what purports to be a memorandum from the superintendent of that hospital to the staff of Misericordia Hospital, dated May 11, 1937. Did you ever see that memorandum before? *A.*—No, I never saw it.

Q.—Wasn't it in the files of your Council on Medical Education and Hospitals? *A.*—I couldn't say.

Q.—All right. Didn't you gain knowledge that as a result of these activities which we have been exploring that you were supposed to get all of the Milwaukee hospitals that you listed on that earlier memorandum to comply with your wishes? *A.*—My recollection is that all the hospitals except Mount Sinai, by the early spring of 1938, had limited their staff membership to those who were members of the county society or eligible to become members.

Q.—And you don't attribute that result in the slightest degree to your efforts? *A.*—I do not say that; I think it may have affected it.

Q.—You think it may have affected it. Now isn't it true that you regarded the Mundt Resolution, even though phrased as it was, as an edict of the House of Delegates? *A.*—No, sir.

Q.—You didn't? *A.*—No, sir.

Q.—Didn't you refer to it as an edict of the House of Delegates in your correspondence? I show you now what purports to be your letter of July 22, 1938, addressed to Dr. D. L. Sprinkle, Superintendent, Tampa Municipal Hospital, and ask you if this is your letter? *A.*—Well, this letter refers to an edict of the House of Delegates, but the use of that word is entirely unauthorized and unjustified.

Q.—Did you write that letter? *A.*—No.

Q.—That isn't your letter? *A.*—No.

Q.—Doesn't it bear your dictation initials? *A.*—It was customary to put those initials on any letter I signed.

Q.—Doesn't it bear your dictation initials? *A.*—Signature initials.

Q.—Does it bear anybody else's initials indicating it was written or dictated by anyone else? *A.*—No.

Q.—It bears the initials "W. D. C.: M. W.," the latter for the stenographer? *A.*—Yes.

Q.—Did you read it over before you signed it? *A.*—I don't think I did.

Q.—But at any rate you sent this out? *A.*—Yes; it was sent out from our office.

Q.—Isn't this what it says here:

"You realize that the Council on Medical Education and Hospitals is carrying out the edict of the House of Delegates of the American Medical Association, which is here reiterated."

And then don't you include in here the Mundt Resolution, quote it in full? *A.*—Yes, I did.

Q.—Isn't this the situation: You were prepared to put this pressure on the hospitals in the form of suggestion, were you not? You simply quoted the Mundt Resolution, and asked what possibility, if any, there was for observance. That was your method? *A.*—The procedure adopted by the Council was to send copies of the Mundt Resolution as a matter of information, and ask the question as to what they proposed to do about it.

Q.—And usually you got results in that way? *A.*—More or less.

Q.—But you were prepared to use more drastic methods if necessary? *A.*—Not on the basis of that resolution.

Q.—Let me show you a letter which purports to be from you to Dr. Knudson, President, King County Medical Society, Seattle, Washington, and ask you if this is a copy of your letter. I am referring particularly to this second paragraph, Dr. Cutter. *A.*—That letter was sent out from my office.

Q.—You signed your name to it? *A.*—Yes, sir.

Q.—Does it not carry this paragraph—

Mr. Leahy:—What is the date?

Mr. Lewin:—March 28, 1936:

"This information regarding Medical Society memberships will be particularly useful to us at this time, because we are now contemplating a survey of the Seattle hospitals shortly after the American Medical Association convention in San Francisco. So far it has not been necessary to take drastic action against any hospital on the basis of the membership resolution of the House of Delegates, since prompt results have usually been obtained by less formidable action on the part of the Council."

Have I read that correctly? *A.*—Yes.

Q.—Does that refer to the Mundt Resolution? *A.*—Yes, sir.

Q.—Now, Dr. Cutter, just as we closed the session of yesterday I had asked you this question and you had given me this response:

"*Q.*—And, as a matter of fact, is it not true that as a result of your letters to those five hospitals"—

Meaning the five Washington hospitals—

"in the summer of 1937 you did get those five hospitals substantially to promise compliance with that restriction? And by 'that restriction' I mean the Mundt Resolution."

And your answer was "No, sir."

Do you still stand on that testimony? *A.*—Yes, sir.

Q.—Now I will hand you a sheaf of correspondence between you and the five Washington hospitals and ask you to answer some questions in regard to it. Did you not on July 27, 1937 call the Washington Sanitarium's attention to the Mundt Resolution? *A.*—Yes, sir.

Q.—That is the first time you had ever done it, was it not? *A.*—No, sir.

Q.—The Washington Sanitarium? *A.*—No, sir.

Q.—When had you done that before? *A.*—In 1934.

Q.—Oh, yes; when you sent out a round robin letter to all hospitals? *A.*—Yes, sir.

Q.—Was this the first time you had done that specifically in regard to that hospital? *A.*—So far as I can recall, that is the first time we had had any correspondence with this hospital since 1934.

Q.—When did you say it had been approved for intern training? *A.*—I don't recall.

Q.—When had it been inspected last? *A.*—I can't recall offhand.

Q.—Did you not give that testimony yesterday? Did you not have a little notebook that you referred to? *A.*—I gave you the dates when some of these had been inspected, but I don't know which one it was.

Q.—Had Washington Sanitarium ever been inspected before by Peterson? *A.*—Yes, sir.

Q.—When? *A.*—I don't remember when.

Q.—Would you say it was 1933, the last time it had been examined? *A.*—I remember that one of these hospitals was examined in either 1933 or 1934, but I am not certain whether it was George Washington or Washington Sanitarium.

Q.—After you made that suggestion to the Washington Sanitarium they wrote back and asked you a question about it, did they not? *A.*—Yes.

Q.—And did they not say this:

"Each application for staff appointment calls for the Medical Societies to which the applicant belongs. Would this meet the requirement of the resolution?"

Is that correct? *A.*—Yes, sir.

Q.—And did you not respond to that inquiry? *A.*—Yes, sir.

Q.—And did you not say in response to that inquiry, on Oct. 5, 1937:

"As far as the resolution of the House of Delegates is concerned the intention remains that all hospitals stipulate membership in the County Medical Society as the basis for the assignment of hospital privileges. The great majority of hospitals with which we have corresponded on this point have agreed that this is a good basis on which to operate."

Is that right? *A.*—That was what the letter said.

Q.—That is what you said? *A.*—I didn't write that letter.

Q.—Did it not go out over your signature? *A.*—Yes.

Q.—Then you were saying it, were you not? *A.*—No.

Q.—Are you not willing to take responsibility for it? *A.*—I have to take responsibility for what I send out, but that is not what I dictated.

Q.—Is not that what you would have dictated? *A.*—No, sir.

Q.—Was there anything wrong with it? *A.*—It stated that the Council intended to stipulate that membership in a County Society must be required; and that was not the intention of the Council.

Q.—Did you not write to Sister Rodriguez of Georgetown Hospital? Georgetown was one that was applying for approval of residents, was it not? *A.*—Yes, sir.

Q.—And did you not say in that letter:

"What possibility, if any, exists for the observance of this recommendation in Georgetown University Hospital?"

A.—Yes, sir.

Q.—Were you not referring to and quoting the Mundt Resolution? *A.*—Yes, sir.

Q.—Did you not get back this answer from the Superintendent of that hospital:

"The Executive Staff ruled in its last meeting"—

This was as late as Oct. 18, 1937, was it not? *A.*—Yes.

Q.—(Continuing reading):

"that no physician shall be nominated or elected to any staff of the hospital unless he is a member of his local medical society or the American Medical Association. Doctors who are already on the staffs specified by you as not meeting these requirements will be notified to qualify within the year."

Is not that what she told you? *A.*—Yes.

Q.—Did you not regard that as an assurance of compliance with what you wanted to achieve? *A.*—Yes.

Q.—Did you not write to Sister Margaret of Providence Hospital also in the summer of 1937, quoting the Mundt Resolution, and asking the same question of that hospital? *A.*—Yes, sir.

Q.—And when had Providence Hospital been last inspected? *A.*—I don't recall.

Q.—Was it one of those that was applying for residency that spring? *A.*—Yes, sir.

Q.—Did you not say in the same letter that you had other criticisms of the hospital? *A.*—Yes, sir.

Q.—And did you not say that—

"As matters now stand we believe it quite likely that when this statement is submitted to the Council at their next regular meeting in November, internship approval will be withdrawn"?

A.—Yes.

Q.—Was not one of the reasons for the opinion that you so stated the fact that Peterson's report disclosed that they were not confining their staffs to members of the American Medical Association? *A.*—No, sir.

Q.—Did you point out in the letter that that criticism had no bearing upon this opinion of yours that the Council would withdraw the internship approval? *A.*—That was not mentioned in that letter.

Q.—But you did call, in that letter, her attention to this criticism? *A.*—Yes.

Q.—You did quote the Mundt Resolution? *A.*—Yes.

Q.—You did ask for her compliance? *A.*—I asked what they proposed to do about it.

Q.—Did not she write back to you and say:

"No words can express my distress at the possibility of losing the American Medical Association's approbation of our intern training school. Nothing will be omitted either by the staff of the hospital or the superintendent to prevent what would prove a dire catastrophe to Providence Hospital, the loss of its credit for intern training."

Did you not regard that as assurance that she would eliminate the things you criticized? *A.*—Not necessarily all of them.

Q.—Well, you felt that that was sufficient assurance that all of them would be eliminated, when she said that nothing would be omitted. She told you nothing would be omitted, did she not? *A.*—I think she qualified that by saying that nothing that they could do—the approval of hospitals was not based on a requirement that every single recommendation should be carried out a hundred per cent. It was based on the entire picture of the hospital and its ability to give good training to interns.

Q.—Did not she in that letter promise you one hundred per cent compliance, and did you not so understand it?

Mr. Leahy:—The letter speaks for itself. Let us not argue with the witness.

By Mr. Lewin:

Q.—Is there any qualification of this statement?

"Nothing will be omitted either by the staff of the hospital or the superintendent"—

Is not that what she said? *A.*—I don't recall that. You have the letter.

Mr. Leahy:—The letter speaks for itself, if your Honor please.

By Mr. Lewin:

Q.—Did she not write to you again on October 12 and give you definite assurances with regard to this Mundt Resolution requirement, in specific terms. *A.*—My recollection is that in that letter she said that the criticisms in the report were very well founded and that the staff had unanimously agreed to meet all of the suggestions.

Q.—Did she not say this:

"Members of the staff who did not belong to the Medical Society of the District of Columbia have been contacted and at the present time all members have submitted their applications for membership, so that now, with those exceptions, all members of our staff are members of the American Medical Association or affiliated with its constituent societies."

Is that right? *A.*—I don't have the letter before me, but that may be a correct statement.

Q.—The letter is right before you, Dr. Cutter. That is why I gave you the exhibits. That is Exhibit No. 241. I think I have quoted that letter correctly. *A.*—I think you have, too; but I could not verify it without seeing it.

THE COURT:—Would it not be better if you pointed it out and saved time?

Mr. Lewin:—I think you are right, your Honor.

THE COURT:—Point out the paragraph to him.

Mr. Kelleher:—Yes, your Honor (handing a letter to the witness).

The Witness:—Yes, Sir; that is as you read it.

By Mr. Lewin:

Q.—And she was assuring you then that she was taking steps to comply with the Mundt Resolution? *A.*—Yes, sir.

Mr. Leahy:—I object. The letter speakers for itself.

Mr. Lewin:—I think it does, but as the witness has had difficulty with it—

THE COURT:—Then you both agree, so I guess the objection is well taken.

By Mr. Lewin:

Q.—Let us turn to George Washington University Hospital. In August 1937 you made the same suggestion to George Washington Hospital, did you not? *A.*—That is right.

Q.—And you got a reply from the Medical Director, Dr. Bloedorn, did you not? *A.*—Yes, sir.

Q.—He did not say anything about the staff membership requirement in that first letter, did he, so that you had to write again? *A.*—He did not reply at all for quite a long time. That is why I had to write a second time. I got no reply.

Q.—When you wrote again you said this:

"Has any action been taken with respect to the resolution of the House of Delegates on the subject of staff membership contained in our letter of August 23?"

You wrote that in October 1937, did you not? *A.*—That is correct.

Q.—And then he responded to that, did he not, on November 4? *A.*—Yes, sir.

Q.—Did he not say:

"With respect to the resolution of the House of Delegates on the subject of staff membership, we find that only nine members of the total staff are not members of the local medical society, and that of these nine, six are full time members of the staff of St. Elizabeths Hospital in the department of psychiatry. As we do not have a psychiatric department in George Washington University Hospital, these members are used primarily in a teaching capacity for our medical students who go to St. Elizabeths Hospital, which, as you know, is a psychiatric institution."

Then did he not say this:

"The problem, then, is reduced to three members of the clinical staff."

A.—Yes, sir.

Q.—Did you not take that as assurance that you were going to have compliance with the Mundt Resolution in that hospital? *A.*—It does not indicate complete compliance, because there were nine who were not members.

Q.—Did he not explain that that problem was reduced to three; that six of them were on the teaching staff of a psychiatric institution? *A.*—But they were not members of the District Society.

Q.—He told you he was going to reduce that very shortly. Is not that what he assured you of? *A.*—That is what he said; yes.

Q.—Let us turn to the Columbia Hospital, which is the last. You adopted the same technic with regard to that institution, did you not, in the fall of 1937?

Mr. Leahy:—I object to the characterization.

THE COURT:—Yes. Omit the characterization.

By Mr. Lewin:

Q.—You adopted the same method with regard to Columbia Hospital, did you not? *A.*—The same kind of a letter was sent to Columbia Hospital.

Q.—He did not reply to it, did he, from September 8 until in November? *A.*—Oh, no; he replied on the 14th of September.

Q.—Oh. Did he? He did not reply with regard to the Mundt Resolution, did he? *A.*—There was no reference to it in that letter.

Q.—So you wrote him on Nov. 3, 1937, again, asking if he was in position to report any action on the Peterson report, and saying, did you not—

"This present inquiry also extends to the resolution which was quoted in our letter of September 8 relating to County Society membership as a basis for hospital privileges."

A.—There were two letters in between there, but this letter is correct.

Q.—And did you not receive a reply, then, to that inquiry, from the superintendent of Columbia Hospital on Nov. 5, 1937? *A.*—Yes, sir; November 5.

Q.—Did he not say:

"As for the demand that physicians on the staffs of hospitals approved for intern training should be limited to members in good standing of their local County Medical Societies, it meets with the approval of the Medical Board as regards future appointments."

A.—Yes.

Q.—(Continuing reading):

"So far as known, all the present members of the staff of this hospital, except one, are members of the District Medical Society. The exception is a man of long service in the hospital and of high standing in the profession. His reasons for not belonging to the society are probably personal, and nobody on the Medical Board suggested that any action be taken in his case."

A.—Yes, sir.

Q.—Did you not find that reply satisfactory and a substantial compliance? *A.*—Yes, sir.

Q.—Was Columbia then approved for intern training? *A.*—No, sir.

Q.—Was it approved for intern training later? *A.*—No, sir.

Q.—Why were you bringing the Mundt Resolution to the attention of the Columbia Hospital? Did you go outside of the hospitals that you were approving for intern training to enforce this resolution? *A.*—I think it was just a matter of routine that it got in there by accident, because it never was an intern hospital. It is a special hospital.

Q.—You had more correspondence on this subject with Columbia than you did with any of the others, did you not? *A.*—I would not say it was more than we had with any of the others.

Q.—Any of the other five here; is not that right? *A.*—I don't know the exact number of letters. It may be.

Q.—As a matter of fact, most of this correspondence that we have called your attention to was after you had had occasion to read Dr. Woodward's article which Dr. Fishbein published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION regarding Group Health; is not that right? *A.*—The correspondence began on the 8th of September and was followed up on the 14th, 17th and 29th of September. It was not until November that any letter was written after the publication of that article.

Q.—The article was published on October 2? *A.*—That is right.

Q.—And Dr. Woodward had been writing it through the summer? *A.*—I don't know anything about that.

Q.—Had he not submitted a draft of it early in September? *A.*—I don't know.

Q.—You do not know anything about that either? *A.*—Certainly not.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, your attention was called on cross examination to page 40 of the proceedings of the House of Delegates of the American Medical Association in Atlantic City, June 7 to 11. Did you read this at that time, Doctor? *A.*—Yes, sir.

Q.—What reference was there particularly in there as to your Council and the Judicial Council? *A.*—We invited the representatives of the Judicial Council to meet with the Council on Medical Education and Hospitals and find out what this was all about.

Q.—What what was all about? *A.*—They wanted cooperation from our Council.

Q.—Who wanted it? *A.*—The Judicial Council wanted some cooperation from our Council.

Q.—With reference to what? *A.*—With reference to the practice of medicine by hospitals, particularly in connection with the department of Radiology.

Q.—Just stop there for a moment. Did this cooperation which the Judicial Council wanted with your Council have anything to do with group practice, prepayment plans, contract practice of medicine, or anything of that sort? *A.*—Nothing at all.

Q.—To what did it relate? *A.*—It related to the practice of some hospitals of going into the practice of medicine through their radiologic department and furnishing radiologic service to the public, and in connection with that they very frequently exploited their radiologist.

Q.—What was it you objected to, or what did the Judicial Council object to, and why was cooperation desired between both of you in regard to that feature? *A.*—It was a situation which occurred in some hospitals wherein the hospital might make $50,000 or $70,000 on its radiologic department, and then employ a man to do the work at perhaps a salary of $5,000; and the practitioners in those localities, and particularly the radiologists, felt that that was a very unfair arrangement, and they had appealed to the Judicial Council to see if something could be done to stop it.

Q.—Did your Council also think that something ought to be done to stop the exploitation of patients by a practice of that kind? *A.*—Yes, sir.

Q.—Did the profession feel the same way? *A.*—Yes.

Q.—And is that what you all were going to cooperate together to try to prevent? *A.*—Yes, sir.

Q.—Did it have anything to do with G. H. A.? *A.*—Not a thing.

Q.—It had nothing to do with contract practice? *A.*—No, sir.

Q.—Or the Mount Sinai Hospital, or the Milwaukee Medical Association? *A.*—No, sir.

Q.—It was restricted, then, as I understand it, solely and only to the practice which you have just related in certain hospitals under circumstances in which you thought the public and the patients were being exploited?

Mr. Lewin:—I object to that, as leading.

Q.—This is the proceedings of the House of Delegates of the American Medical Association, June 10 to June 14, 1935. I now direct your attention to those portions of the minutes carried on pages 40 and 41. Glance down those, please. *A.*—Yes, sir.

Q.—Did that particular report contained therein have anything to do whatsoever with the group practice of medicine or contract practice of medicine or prepayment plans or however you might describe them? *A.*—No, sir. It had reference to this radiology situation.

Q.—Is that another volume of the minutes of the House of Delegates at the same session? *A.*—No, sir. That was at the session of 1935, two years prior to this.

Q.—How long had your Council or the Judicial Council been discussing this matter of hospitals exploiting in the manner which you have stated? *A.*—During the two years intervening between these two reports.

Q.—What was the purpose, then, which you set forth in the report, or your Council recommended to the House of Delegates? *A.*—I don't know just where that is.

Q.—Can you give it to us from memory without taking time to run down through all that book? *A.*—I don't believe I can give it to you from memory, but the general tenor of it was that we had had conferences between the Council on Medical Education and the Judicial Council and we had tried to cooperate with the Judicial Council by securing for them information concerning the operations of hospitals in their radiologic departments.

Q.—You speak in the 1936 minutes about a plan which was to be devised. Did you not use the words in there that it would take some time to work out a plan? *A.*—Yes.

Q.—Was a plan ever worked out? *A.*—Not a very satisfactory one.

Q.—Was this practice which you were complaining about at that time finally stopped? *A.*—I don't think so.

Q.—Doctor, what other agency, if any, is there in the United States which examines hospitals and investigates hospitals to keep them up to standards? *A.*—The American College of Surgeons.

Q.—What distinction, if any, is there between the examination which you make of hospitals and that of the American College of Surgeons? *A.*—The examination which we make of hospitals in directed to their educational program for interns and residents. The examination which the College of Surgeons makes is not directed to the educational function of the hospital, but rather to the function of rendering medical care to its patients—medical and surgical care; and the approval of the College of Surgeons is based upon an examination of the hospital with reference to its ability to provide good, sound medical care for its patients.

Q.—When was it that the American College of Surgeons first began its investigation of hospitals?

Mr. Kelleher:—I object, your Honor. I do not see any relation between those questions and the questions on cross-examination by Mr. Lewin.

Mr. Leahy:—I am going to fit it into the Milwaukee situation.

THE COURT:—I will permit it as a preliminary question.

A.—The College of Surgeons was founded in about 1913 or 1914, and I think that its program of inspection of hospitals began just after the War, in 1918 or 1919.

By Mr. Leahy:

Q.—Is there any other agency, other than those two, which can protect the standards of hospitals? *A.*—There is no other agency which has facilities for inspecting hospitals.

Q.—How long has the inspection of hospitals by the American Medical Association been recognized?

Mr. Lewin:—Objected to as immaterial, irrelevant, and beyond the scope of the cross examination, and improper redirect.

Mr. Leahy:—It is just along the line of the cross examination with reference to the value of the approval.

Mr. Kelleher:—The American College of Surgeons?

Mr. Leahy:—It is the American Medical Association that I am asking about.

THE COURT:—Objection overruled.

A.—The American Medical Association changed the title of the Council from Council on Medical Education to Council on Medical Education and Hospitals in 1919 or 1920, and the actual visitation of hospitals began a few years later. I cannot remember exactly whether it was 1923 or 1924, but it was about that time.

By Mr. Leahy:

Q.—From that time down has the approval which you have given been recognized generally throughout the United States? *A.*—Yes, sir.

Q.—Is it recognized now by the United States Government itself? *A.*—I don't know that the Government is particularly interested in the approval for internships, but our registration of hospitals is utilized by the Government very extensively.

Q.—Is it utilized now on the question of the national defense? *A.*—Yes; it is.

Mr. Lewin:—Wait a minute.

Mr. Leahy:—It is on the question of the value of approval.

THE COURT:—I will sustain the objection. We are dealing with a different period here.

By Mr. Leahy:

Q.—In the matter of the Milwaukee situation, Doctor, is it a fact or not that the Council would or would not approve a hospital which had on its staff five men whom the majority of their own physicians in a given locality did not consider worthy to belong to the Association?

Mr. Kelleher:—Objected to as leading, your Honor.

Mr. Leahy:—I have got to make it leading.

Mr. Lewin:—Why?

Mr. Leahy:—I will change it.

Mr. Lewin:—You have already asked it.

By Mr. Leahy:

Q.—What is the attitude of the Council with reference to any hospital, whether it is in Milwaukee, Seattle, Chicago, Washington, D. C., Boston, or any other city that you can think of, which retains upon its staff five doctors who have been expelled from their local medical society by the vote of the majority of the members as being unworthy of belonging to the society? *A.*—The Council would feel that such hospital did not conform to the requirements of the essentials for a registered hospital.

Q.—We have been talking about these essentials for a registered hospital. I think that three of them were identified yesterday in evidence. Will you identify now which one you refer to when you say the essentials for a registered hospital? *A.*—This one (indicating).

Q.—How is it numbered? *A.* Defense II.

Q.—Of what importance is the membership of the staff in a hospital? *A.*—It is of the greatest importance.

Q.—Why do you say that? *A.*—Because the character of the service which is rendered in the hospital depends upon the character and qualifications of the physicians who compose its staff.

Q.—Under these Essentials of a Registered Hospital does the ethical standing of a doctor who is on the staff come into consideration also, as well as his ability?

Mr. Lewin:—Objected to, unless he defines the word "ethical."

Mr. Leahy:—I will.

THE COURT:—Objection overruled.

A.—Yes; it does.

By Mr. Leahy:

Q.—When you use the word "ethical," to what do you refer, Doctor? *A.*—To the principles of ethics adopted by our Association.

Q.—Are those principles of ethics also recognized by others than the American Medical Association?

Mr. Lewin:—It makes no difference, and I object.

Mr. Leahy:—Oh, yes, if your Honor please. If I can show generally that the principles of medical ethics are those principles under which all doctors practice whether they belong to the American Medical Association or not, it is perfectly proper.

THE COURT:—Objection overruled.

By Mr. Leahy:

Q.—Are those principles of ethics recognized by all doctors in the United States, regardless of membership in the American Medical Association? *A.*—They represent substantially the principles of ethics which are recognized by all physicians, whether they are or are not members of the Association.

Q.—How long have those principles of ethics been recognized by doctors practicing medicine?

Mr. Lewin:—I object to it on the ground that this witness cannot have knowledge that all doctors subscribe to these rules.

THE COURT:—No. I think that question is too broad. You may ask him how long they have prevailed.

Mr. Leahy:—I want to bring out that those principles of ethics have been in force for centuries.

THE COURT:—I am saying that he may state how long they have prevailed.

By Mr. Leahy:

Q.—How long have those principles of ethics been in force, Doctor? *A.*—They usually trace back to the time of Hippocrates.

Q.—Do you know how long ago that was? *A.*—Two thousand four hundred years ago.

Q.—What is the attitude of the Council of which you are the secretary where a hospital retains upon its staff five men who refuse to abide by and to perform in accordance with those principles of ethics?

Mr. Lewin:—He has already gone over this. He says they frown upon them and they try to kick them out of the hospitals.

THE COURT:—I did not hear him say that. Do not characterize it in your own way. You are informing the court that he said a certain thing. He did not say that. When counsel undertake to tell me what has occurred, I want it stated with substantial accuracy.

Mr. Lewin:—He did not use those words, but he certainly said that in substance?

THE COURT:—What is the question, please?

(The pending question was read by the reporter as above recorded.) He may answer that.

The Witness:—The Council would consider that such a hospital did not conform to the standards for a registered hospital.

By Mr. Leahy:

Q.—What action, then, would the Council take with reference to those five doctors, if any? *A.*—None with reference to them. It would take the hospital off the registered list.

Q.—And that registered list is made up of hospitals who seek registration thereon—

Mr. Kelleher:—Objected to as leading.

THE COURT:—I think that is quite leading.

By Mr. Leahy:

Q.—Do you require any hospital to seek registration? *A.*—No, sir.

Q.—Is it not their voluntary act and request? *A.*—Entirely.

Q.—And what you do then is to withdraw the privilege of registration from a hospital; is that right? *A.*—That is it.

Q.—Do you still leave it free for the hospital to keep those doctors on their staff if they want to? *A.*—Certainly.

Q.—Does your Council in any way undertake to impose its will upon the administration of any hospital?

Mr. Lewin:—May we have some ruling on these leading questions, your Honor?

Mr. Leahy:—They have got to be leading.

Mr. Lewin:—I don't know why. This witness is an intelligent witness, and very much interested.

Mr. Leahy:—I know he is; there is no doubt about that.

THE COURT:—I think that question may be answered. Try to avoid leading questions.

A.—The Council does not try to impose its will on any hospital.

By Mr. Leahy:

Q.—For instance, in the city of Washington, when these letters were written, this correspondence back and forth with George Washington, Georgetown, Columbia, and so forth, when, for instance, you found that on the George Washington Hospital staff there were nine doctors who were not members of the Medical Society, six of whom were in St. Elizabeths Hospital, three of whom were not members of the Medical Society: what action did your Council take with regard to withholding approval from George Washington University Hospital? *A.*—None at all.

Q.—In the case of Columbia Hospital what action did you take? *A.*—None at all.

Q.—And that was after you read the Woodward article, was it not? *A.*—Yes.

Q.—What did you do with reference to the Washington Sanitarium? *A.*—Nothing.

Q.—Did you, in connection with any single Washington hospital, Doctor, officially or otherwise exert threats or any pressure to compel the hospitals to have on their staffs only members of the local society?

Mr. Lewin:—Objected to as leading.

THE COURT:—I do not think that is leading. I think that is a proper question.

A.—No, sir; we did not.

By Mr. Leahy:

Q.—Would you kindly point out to me where in these Essentials of a Registered Hospital you refer to the staff? *A.*—In the paragraph which is numbered Arabic Two under Roman One.

Q.—Point it out to me. *A.*—Right here (indicating).

Q.—Are there any other places about the staff? *A.*—Under Roman Three there are more details about the medical staff.

Q.—When a hospital applies for approval to your Council for registration for intern training or for residencies, does the hospital receive a copy of this (indicating)? *A.*—It does.

Q.—The hospital therefore knows in advance of its application what requirements it must fulfil if it expects the application to be granted? *A.*—Certainly.

Q.—And these you think are the essentials (indicating)? *A.*—Yes, sir.

Q.—And you so publish them, do you? *A.*—Yes, sir.

Q.—And they are the very essentials which a hospital ought to have in the public interest?

Mr. Lewin:—Objected to as repetitious and leading.

THE COURT:—That is very leading. It speaks for itself.

Mr. Leahy:—May I just read briefly from the Essentials of a Registered Hospital, prepared by the Council on Medical Education and Hospitals of the American Medical Association?

(Mr. Leahy read to the jury the "Essentials of a Registered Hospital.")

By Mr. Leahy:

Q.—Now, Doctor, under subparagraph 7 of paragraph 3 on page 2 of this exhibit, I find this:

"Staff meetings should be held for the review of the work of the hospital, the discussion of resolutions and reports of autopsies and pathologic studies, the presentation of papers and such other matters as concern the professional work of the hospital."

In your examination of hospitals what does your Council do should it find that a hospital is not following what the Council considers essentials of a registered hospital? *A.*—The first thing we would do would be to notify the hospital of the things that we consider to be lacking, and if they were things that could be reasonably corrected we would allow them to go on and correct them.

Q.—Take a look at that examination which was made into Providence Hospital, Doctor (indicating). Without going through the whole report, did you find therein what you considered to be a failure to live up to certain essentials as laid down in that exhibit, which Providence Hospital had, before it had its application granted?

Mr. Lewin:—Objected to as leading.

Mr. Leahy:—It could not be leading.

Mr. Lewin:—The answer is just yes or no.

Mr. Leahy:—That is all.

THE COURT:—I do not think that is leading. Where you are referring to some connection that involves a certain practice the question has got to be directed to the practice to which you have reference.

Mr. Lewin:—May I make a suggestion with regard to that, your Honor?

THE COURT:—Yes.

Mr. Lewin:—I do not see why it would not be proper examination to ask him what he criticized about Providence Hospital.

Mr. Leahy:—I will ask him that in the very next question.

THE COURT:—That is all right if it does not open up too broad an answer. In view of the extensive ground that this case has covered I want counsel on both sides to direct their questions in such a way that it will bring it down to the very thing which you have in mind. I think counsel must endeavor to avoid what are in their nature clearly leading questions, but I do not want to be too strict about it on either side.

By Mr. Leahy:

Q.—Did you find certain criticisms which relate to the essentials of a registered hospital? *A.*—This has to do with an internship hospital, Mr. Leahy. There are in the summary—without going into the reports—five points noted regarding which it was suggested that improvements should be made.

Q.—Did you send a copy of that report with those five points for correction, to Providence Hospital? *A.*—Yes, sir.

Q.—Does that report contain anything at all to the effect that Providence Hospital must comply with the Mundt Resolution? *A.*—No, sir.

Q.—Does that report on the five essentials which must be corrected in any way refer to anything about the staff or its membership? *A.*—No, sir.

Q.—Let us take one other hospital that was brought to your attention in the shape of a letter. I am going to show you now a letter which was brought to your attention on cross examination, and you said it was a letter which went out but that you did not think you dictated. *A.*—I know I did not dictate it.

Q.—Let me ask you, Doctor: How many people in your Council are there who handle correspondence?

Mr. Lewin:—It has already been testified to.

Mr. Leahy:—I don't think it has.

Mr. Lewin:—You asked him that on direct examination.

THE COURT:—It has been asked, but he may answer it again.

A.—There are four men in my department who handle correspondence.

By Mr. Leahy:

Q.—I will ask you if it is humanly possible for you to take care of all correspondence that comes into the office? *A.*—No, sir.

Q.—What discretion, if any, do you give to the others in your Council in the matter of answering correspondence? *A.*—I ask them to prepare letters in reply to inquiries that come in, and submit them to me for signature.

Q.—Whether you wrote it or dictated it or whether you did not, there was read to you from this letter the word "edict." Do you recall that? *A.*—I remember reading it this morning.

Q.—Listen while I read it, so we will all know what it was all about. This is on the letterhead of the American Medical Association. It is dated July 22, 1938, to the Superintendent of Tampa Municipal Hospital, Tampa, Florida:

"Thank you for your letter of June 29 in which you invite the Council to send a representative to assist you in the solution of certain problems now confronting the Tampa Municipal Hospital.

"It is unlikely that we can release one of our staff men now or in the near future, since the field work is necessarily planned well in advance. You may be sure, however, that the Council desires to be kept informed of what developments may take place. If later it seems desirable a visit may be arranged. The Council is well aware of the situation existing in Tampa between the Hillsboro County Medical Society and the doctors serving the Latin population through fraternal clubs on a contract basis. The physician of the hospital has always been under the purview of the Council. A reasonable amount of time has elapsed during which a solution might have been effected."

Then it says that the Council on Medical Education and Hospitals is carrying out the edict of the House of Delegates of the American Medical Association, and it quotes the resolution, and it goes on to say—

"The principle involved is one of unethical contract practice by members of your hospital staff. This is in conflict with the resolution as well as with your own staff constitution and by-laws. No action for removal of the hospital from the approved list will be taken immediately, and I believe the Council can see its way clear to carry the name of the Tampa Municipal Hospital in the forthcoming list to be printed in the Educational number of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Aug. 27, 1938. If a satisfactory settlement cannot be made during the current year, the recognition of the hospital by the Council may be jeopardized."

Now let me ask you this: If a hospital is operating in conflict with its own staff constitution and by-laws, what effect would that have with respect to the Council's recognition of the hospital so acting in violation of its own staff constitution and by-laws? *A.*—It would be regarded as a serious breach of the standards which we have proposed.

Q.—In this particular case is it a fact that you did publish that hospital in the A. M. A. Educational number of THE JOURNAL? *A.*—Yes.

Q.—And you gave them a year in which to try to effect an improvement? *A.*—That is what was stated in that letter; but actually no action was taken at the end of the year.

Q.—None whatsoever? *A.*—No, sir.

Q.—They remained on the register? *A.*—Yes, sir.

Q.—Now, this is a letter which was shown you, dated March 28, 1938, going out to Dr. C. W. Knudsen, president of the King County Medical Society, Seattle, Washington. This was brought to your attention, and you recognize it now? *A.*—Yes.

Q.—Let me read the letter so that we will know what is going on. It is dated March 28, 1938, addressed to Dr. C. W. Knudsen, President, King County Medical Society, Medical and Dental Building, Seattle:

"Dear Dr. Knudsen: We appreciate very much your continued interest in the work of the Council and your offer to assist us in obtaining full compliance with the resolution of the House of Delegates pertaining to staff appointments in hospitals approved for intern training."

Stopping there for a question, Doctor: Does the staff of a hospital which is approved for intern training have more importance from the standpoint of selection of membership than the staff of another hospital which is not engaged in intern training? *A.*—Yes; it does.

Q.—Why? *A.*—Because they are responsible for teaching these young men who have come to them for such instruction.

Q.—What effect, in your judgment, is it with respect to the ethical practice of one who is teaching younger doctors? *A.*—He should be a good example to the men he is teaching.

Q.—Is that what you have in mind with reference to the staff which you state in your Essentials of a Registered Hospital, that it must be an ethical staff? *A.*—Precisely.

Q.—In other words, are you looking out for the young men who are coming up to be doctors? *A.*—Yes.

Q.—What part does your Council play in seeing that the proper standards of the practice of medicine are taught to those young men who are coming on to be the doctors of tomorrow? *A.*—In the examination of the hospitals we always try to ascertain whether the practice which is carried on there is satisfactory and in accordance with modern standards.

Q.—Continuing the letter:

"We are sending under separate cover the staff lists recently submitted by doctors and hospitals of Seattle and shall be glad to receive your notification of the number of staff physicians who are not members of the County Medical Society. Some of the hospitals failed to submit on the last information blank the names of physicians having staff privileges. We are writing for up-to-date staff lists and shall send them on to you at the earliest opportunity. All information regarding County Medical Society membership will be particularly useful to us at this time, since we are now contemplating a survey of the Seattle hospitals shortly after the American Medical Association convention in San Francisco. So far it has not been necessary to take drastic action, since prompt results have usually been obtained by less formidable action on the part of the Council. We feel certain that the cooperation of the King County Medical Society will be of great help to the Council in this matter."

Can you tell us what the purpose of the Mundt Resolution was? *A.*—You mean, the purpose of the House of Delegates in adopting it?

Q.—Yes. *A.*—I presume—

Mr. Lewin:—Wait a minute.

By Mr. Leahy:

Q.—Were you present at its adoption?

Mr. Lewin:—Just a minute, please. I object and move that the answer be stricken.

THE COURT:—Yes.

Mr. Leahy:—Very well.

By Mr. Leahy:

Q.—Have you told us how many hospitals have adopted the principles set forth in the Mundt Resolution? *A.*—No, sir. I don't know.

Q.—Have you any information upon it at all? *A.*—No definite information.

Q.—Doctor, do you now recall whether any of the hospitals in the city of Washington, outside of Georgetown University Hospital, adopted the principles as set forth in the Mundt Resolution? *A.*—I don't recall exactly what their action was, but I think that it was shown a few moments ago that Providence Hospital took some similar action. But whether it was precisely the same or not I could not say.

Q.—In the letter of transmittal to you from Georgetown Hospital, which was just brought to your attention a short while ago, it is stated that the Executive Committee at its last meeting had put into effect the principles stated in the Mundt Resolution. Do you recall that? *A.*—Yes, sir.

Q.—Do you recall the date of the meeting of the Executive Committee? *A.*—That was not indicated.

Q.—After you read the Woodward article in October of 1937, Doctor, what did you do toward bringing the Mundt Resolution to the notice of the other hospitals in Washington which had not been examined? *A.*—Nothing.

Q.—Did you personally, or through anybody else, bring the Mundt Resolution to their attention? *A.*—No, sir.

Q.—Was anything done with respect to the Washington hospitals differently from what was done with reference to every other hospital in the United States, so far as the Mundt Resolution was concerned? *A.*—There was nothing different.

Mr. Leahy:—May I just look over my notes, your Honor?

THE COURT:—I will give you an opportunity to look them over during the recess. We will take our recess now until 1:30.

MARCH 11—AFTERNOON

RE-DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Q.—Doctor, I wish you would identify for us these as the Principles of Ethics of the American Medical Association. *A.*—Yes.

Mr. Leahy:—I should like to read them. They will have to be read sometime, your Honor. I might as well do it now. Ladies and gentlemen of the jury: These are the Principles of Medical Ethics:

At this point the entire "Principles of Medical Ethics" was read to the jury.

By Mr. Leahy:

Q.—Doctor, there was just one further question I wished to ask you in connection with a letter which was shown you, and I will identify it by date, July 22, 1938, from the Tampa Hospital. Do you recall whether the Tampa Hospital, at the expiration of the year which you gave that hospital to adjust whatever problem they had between them down there had so adjusted that problem so that they remained on the register, or were they taken from the register? *A.*—They were not taken from the register.

Q.—At what time were they not taken from the register? *A.*—A year after that letter was written.

Q.—Were they at any time subsequently thereto, if you know, removed from the register? *A.*—I think not.

Mr. Leahy:—That is all.

RE-CROSS EXAMINATION

By Mr. Lewin:

Q.—Is it not true that those doctors who had been engaged in Tampa in rendering medical services to these fraternal clubs, to these groups with a Latin population, and who had been on the staff of the Tampa Municipal Hospital, were required to resign from the staff of the Tampa Municipal Hospital? *A.*—I couldn't say whether they were required to resign; I think they did resign.

Q.—The hospital dropped them as a result of your activities? *A.*—I think not.

Q.—The hospital dropped them; you will agree with that? *A.*—Yes.

Q.—Now, before they did resign you did withdraw registration from that hospital? *A.*—No, sir.

Q.—Didn't your Council drop the Tampa Municipal Hospital for this reason and only reinstate them because a suit for an injunction was filed? *A.*—I think not.

Q.—You think not? Let me ask you this question: I think I was misinformed. Is it not a fact that the Tampa Municipal Hospital dropped these doctors from its staff and those doctors sought an injunction against the hospital, and after they obtained that injunction, didn't your Council withdraw its approval from that hospital?

Mr. Leahy:—There are two or three questions involved in that.

THE COURT:—You might ask the witness if he understands the question.

By Mr. Lewin:

Q.—Are you confused by that question? *A.*—Yes.

Q.—Then I will divide it up. First, didn't the Tampa Municipal Hospital drop these doctors in question from its staff? *A.*—That is my recollection.

Q.—And didn't those doctors go into court and obtain an injunction preventing that discharge? *A.*—Something of that sort occurred; I am not certain of the details.

Q.—And after that didn't you notify that hospital that your Council was withdrawing its approval from that hospital? *A.*—Not within the period covered by this investigation.

Q.—Oh, well, now, I didn't ask you that. I asked you if after that time, didn't you then take action and withdraw them from your approved list? *A.*—It was quite a long time after that.

Q.—Specifically, wasn't it Feb. 17, 1940, and isn't that a copy of your letter to the hospital? *A.*—That is a correct copy of the letter of Feb. 17, 1940.

Q.—(Reading:)

"My Dear Mr. McKay: The Council on Medical Education and Hospitals, meeting on February 11, voted to withdraw approval for the training of interns at the Tampa Municipal Hospital. As a result of the changes which have been made recently in the organization of the medical staff, the Council is convinced that the hospital is no longer capable of fulfilling the requirements fixed by this Council and ratified by our House of Delegates."

Weren't the changes in the organization of the medical staff referred to this reinstatement of those doctors produced by their injunction suit? *A.*—That was one of the changes.

Q.—Was that one of the changes referred to in this letter, which caused you to withdraw approval for intern training at that hospital? *A.*—The changes referred to in the letter were that the entire staff of the hospital had been changed and within six months thereafter had undergone an almost complete change again, so that there was no continuity of service or supervision over the training of interns.

Q.—Weren't the changes that you referred to in this letter, and which caused you to act in withdrawing that approval, the fact that these doctors whom you had objected to were reinstated on the staff of the Municipal Hospital by order of the equity court down there? *A.*—That was not the only reason.

Q.—That was one of them? *A.*—That was one of them.

Q.—And wasn't the other one, the other change in the staff, that the rest of the staff, members of the A. M. A., withdrew from the Tampa Hospital when these doctors were reinstated by the court? *A.*—No, I think not.

Q.—Is there any truth in what I have asked you? *A.*—I know that a good many of the members of the society did stay on the staff.

Q.—And a good many left? *A.*—Some of them.

Q.—Because the court had reinstated these physicians you objected to?

Mr. Leahy:—That is objected to.

THE COURT:—How does he know that?

Mr. Lewin:—He said, as a result of the changes which were made.

By Mr. Lewin:

Q.—I just want to ask him about this other change, whether the other change in the medical staff which you refer to in that letter was not the change that resulted when a group of A. M. A. doctors left that hospital because these other doctors to whom you objected had been reinstated by the Court? *A.*—I couldn't say whether that was the reason why they left, but all I can say is there was a complete change in the staff of the hospital at one period, and within six months a complete change again, and we notified the hospital that if they couldn't keep a staff more regularly than that we couldn't depend on it to carry out our educational program.

Q.—But there was a substantial change in the personnel of the staff shortly after the injunction suit was decided? *A.*—There were two almost complete changes of the staff within six months or so.

Q.—Didn't you understand that there was a connection between those changes and the injunction action? *A.*—I have forgotten just where the injunction action came in.

Q.—The principles of medical ethics were introduced through your testimony. Do you recall that provision of the principles which says that contract practice may be unethical if it is contrary to sound public policy? *A.*—Yes.

Q.—Do you understand that to mean that the American Medical Association is the judge of what is sound public policy in connection with contract practice? *A.*—The American Medical Association would have to judge how to apply that phraseology in their consideration of the evidence.

Q.—Doesn't it usually act in that regard through the Judicial Council? *A.*—Yes.

Q.—And don't you know it to be the fact that the Judicial Council has consistently failed to define what they mean by "contrary to sound public policy"? *A.*—I am not aware of that.

Q.—Aren't you aware of these transactions in the Judicial Council which I now read you, from Exhibit 137: "The secretary"—

These proceedings were Nov. 12, 1937—

"The secretary presented the request of Dr. Kingsley Roberts, Medical Director of the Bureau of Cooperative Medicine of the Cooperative League of the United States of America, for definitions of 'solicitation,' 'advertising,' and 'contrary to good public policy.'" "No definite action was taken by the Council but there was no objection to giving Doctor Roberts the definition of 'solicitation' as adopted by the Judicial Council. The Judicial Council has never defined the terms 'advertising' or 'contrary to good public policy.'"

Didn't you know that? *A.*—No, I never heard that before.

Q.—Did you ever see a definition of "sound public policy" as used in circumscribing the proper limits of contract practice? *A.*—I don't recall.

Q.—As far as you know, the matter is completely within the caprice of the Judicial Council, without any standard to guide it as to what is or is not sound public policy? *A.*—I wouldn't say that, no.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Did you ever see a definition of "sound public policy" in the law? *A.*—No, sir.

Q.—Did you ever find it in the dictionary? *A.*—No, sir.

Q.—Do you know anybody else that did? *A.*—No.

Mr. Lewin:—Did you ever look for it? *The Witness:*—No.

Mr. Leahy:—Did you? *Mr. Lewin:*—Yes, I have looked for it.

By Mr. Leahy:

Q.—Why did the Council consider, if the Council did so, that a hospital which couldn't keep a staff longer than six months was such a hospital as couldn't remain on its approved list as those or as one qualified to train interns? *A.*—Because it is necessary, to carry out any kind of a system of training, to have the continuity in planning and execution of any training program to have constant and regular supervision, and any hospital that wasn't in a position to undertake the responsibility of doing that we felt was incapable of properly carrying out such a program.

Mr. Leahy:—That is all.

TESTIMONY OF THOMAS H. REAVIS

DIRECT EXAMINATION

By Mr. Leahy:

Thomas H. Reavis said he was employed in the General Accounting Office as investigator for fifteen years. Answering the subpoena for the Comptroller General of the United States he produced documents out of the A files, or the Comptroller's files, of the General Accounting Office.

TESTIMONY OF C. M. PETERSON

DIRECT EXAMINATION

Carl M. Peterson, Palatine, Illinois, said that he is employed as secretary of the Council on Industrial Health of the American Medical Association. Before that he was on the staff of the Council on Medical Education and Hospitals of the American Medical Association. He commenced in that employment in April 1930 and terminated in February 1938. He graduated from the Medical School of the University of Minnesota in 1927. Following that he was engaged for a short time in the practice of medicine in the Duluth, Minn., clinic; a short experience in private practice in London, Minn., and then a short period of postgraduate work immediately preceding his employment by the American Medical Association.

Q.—And where did you take your postgraduate training? *A.*—Actually my appointment in Duluth was in the nature of postgraduate work, and I also had a term at the New York Post-Graduate College and Hospital.

Q.—Now, when you were connected with the Council on Medical Education and Hospitals, in what capacity did you act? *A.*—My work was to investigate the educational program developed in hospitals.

Q.—And how many hospitals a year were you able to visit? *A.*—I should say between one hundred and fifty and two hundred hospitals, perhaps.

Q.—And in area, what territory did your examination cover? *A.*—We covered the entire country.

Q.—Do you recall at the time how many hospitals there were in the country which were on the approved list for intern training? *A.*—Oh, approximately seven hundred hospitals had been approved for training of interns.

Q.—And were there others besides yourself engaged in that same work for the Council? *A.*—Yes.

Q.—How many others? *A.*—Three of us.

Q.—How much of your time did you give to your work? *A.*—Full time.

Q.—Did you have any other duties than the ones you have just related? *A.*—Only administrative details in the office such as were incident to traveling in the field.

Q.—How was the necessity for the examination or investigation into the qualifications of the hospitals for intern training made? *A.*—Well, in every instance that I can recall an application was filed by the hospital in the office of the Council.

Q.—And do you mean by that the application of the hospital desiring the investigation for approval? *A.*—Yes, they suggested or asked for the regulations governing internship approval and we supplied them with the regulations.

Q.—Now, when the application came in to you from a hospital, what reply did you make to the request? *A.*—Well, subsequent to the first inquiry we regularly sent them some application forms.

Q.—Did you send with the forms any other communication whatsoever? *A.*—Yes, we usually sent them also—called attention to the essentials which had been set up governing the various kinds of approval.

Q.—And did that particular pamphlet have any given name? *A.*—Well, we had one pamphlet governing internship approval, another pamphlet governing residency approval.

Q.—I now show you what has hitherto been identified as Defendants' Exhibit 12, "Essentials in a Hospital Approved for Training Interns"; is that the one to which you refer? *A.*—This is dated 1939. There may have been some changes over the years since I was actually engaged in that work.

Q.—In general setup was the pamphlet which you enclosed in response to the requests of the hospitals for an examination similar to that? *A.*—It looks to me to be substantially the same.

Q.—Did you say that you also had another pamphlet, "Essentials in a Hospital Approved for Residencies"? *A.*—I did.

Q.—I now show you what has hitherto been identified as Exhibit 13: Is that the pamphlet you refer to? *A.*—I believe there have been some changes made in the characteristics of this set of essentials over what we had while I was associated.

Q.—But in whatever form the essentials may have been at that time, what did those essentials contain as information to the hospitals? *A.*—They contained a number of recommendations to the hospitals which we had found on the basis of experience to be good basis for training for house officers, interns and residents.

Q.—Do you recall whether at any time you made any examination of any Washington hospitals? *A.*—Yes, I have such a recollection.

Q.—Have you an independent recollection of the date or year when you made such an examination? *A.*—Yes; it was in 1937.

Q.—Do you recall now the occasion for coming to Washington to make such an examination? *A.*—I should feel it was based on an application received from the hospital here in Washington.

Q.—I am now going to show you what has hitherto been identified as Defendants' Exhibit 16. Will you kindly look that over and see if you can identify that, Doctor? *A.*—This is a letter addressed to Ray Lyman Wilbur, from Dr. James A. Cahill Jr. of Washington, regarding surgical appointment at Georgetown University Hospital and Providence Hospital.

Q.—Do you recall whether you ever saw that before? *A.*—Yes, I did see it before.

Q.—I will ask you to look at the paper clipped thereto. Tell us whether you identify that. *A.*—That is a letter I wrote to Dr. Cahill in response to his original inquiry about the residency.

Q.—Before the residency letter written by Dr. Cahill to Dr. Wilbur, had you had any notice of coming to Washington in order to make an inspection or examination of any hospitals? *A.*—No, sir.

Q.—What then was the occasion of your coming, if you can recall? *A.*—The occasion for coming to Washington was in connection with Dr. Cahill's request.

Q.—Did you receive any reply to the letter which you wrote, which is attached to Exhibit 16? *A.*—I believe so.

Q.—I now show you Defendants' Exhibit 16, and ask you whether you ever saw that before. *A.*—Yes, that is the letter addressed to me from Dr. Cahill.

Q.—And attached to it what do you find? *A.*—A copy of an application for residency approval submitted by Dr. Cahill in behalf of Georgetown University, and another one in behalf of Providence Hospital here in Washington.

Q.—Now, after you had received the application with the information contained thereon, with respect to each hospital, what did you do with respect to coming to Washington to make an examination of both of those hospitals for residency training? *A.*—As soon as other arrangements could be made in connection with our regular program of inspection, we arranged to come here to investigate this application and the circumstances surrounding the application here in Washington.

Q.—Now, you said as soon as you could make the arrangement with reference to your other business, to what did you refer? *A.*—It wasn't possible to respond immediately to an application of this kind, because we received a great many similar ones from other institutions all over the country and they had to take their turn.

Q.—Do you recall now how soon it was after the receipt of the application forms that you finally came to Washington? *A.*—It seems to me, I recall that Dr. Cahill's letter was written in February and I believe we came here early in the summer.

Q.—Early in the summer of 1937, is that right? *A.*—I think 1937.

Q.—When you came here how many hospitals did you examine? *A.*—I visited Georgetown, Providence, Washington Park, George Washington and Columbia.

Mr. Lewin:—You mean Washington Sanitarium? *The Witness:*—Yes.

By Mr. Leahy:

Q.—Had you ever previously examined any of those Washington hospitals before? *A.*—I think not.

Q.—Have you any recollection now as to the reason why you examined Columbia, Washington Sanitarium and George Washington at the time you examined Georgetown and Providence Hospitals? *A.*—That very likely was a routine matter, routine reinspections, or in the case of one of them, that may have—or they may have had an application in for a certain type of recognition; very likely it was routine visits.

Q.—What was the custom of your Council and yourself as an inspector in the matter of these reexaminations of hospitals? *A.*—Well, we attempted periodically to return to every hospital that had received approval to see whether they were maintaining what we considered desirable standards.

Q.—What instructions, if any, did you receive when you came to Washington to make these examinations of these hospitals? *A.*—I recall no particular instructions.

Q.—With respect to your itineraries, and with respect to the hospitals you should examine, who makes and determines as to the date, time and place, et cetera, thereof? *A.*—That was left largely to my own initiative. We worked where we felt that the need was most acute, from the point of view of our work.

Q.—Do you recall now whether Dr. Cutter ever gave you any special instructions of any kind when you started here for the examination of the Washington hospitals? *A.*—He did not, no.

Q.—Did anybody else in the Council give you any such instructions? *A.*—On the Council?

Q.—Yes. *A.*—No, sir; no, indeed.

Q.—Didn't anybody else in the American Medical Association? *A.*—No, sir.

Q.—Was the matter entirely in your own discretion? *A.*—Yes.

Q.—Now, in making these examinations of hospitals, who determined the character of the type or thoroughness of the examination? *A.*—In respect to the examination of the individual hospitals?

Q.—Yes. *A.*—Well, the inspector naturally, I believe—and—

Q.—And in your case that would be yourself? *A.*—Yes.

Q.—And having made the examination of these hospitals, what then did you do, with reference to the results of whatever you found existed? *A.*—I prepared reports of each visit.

Q.—Did you do the same with reference to all hospitals which you visited, all over the United States? *A.*—Yes.

Q.—And have you always done that ever since you have been employed by the Council?

Mr. Lewin:—Is it necessary for this many leading questions to be asked of this witness? He is not a defendant.

By Mr. Leahy:

Q.—All right: What has been your practice ever since you have been employed by the Council with reference to making recommendations?

Mr. Leahy:—Is that better?

Mr. Lewin:—Well, after you have given him the answer.

The Witness:—It is the same thing.

By Mr. Leahy:

Q.—Won't you tell him, please, Doctor? *A.*—We regularly prepared a report which was submitted, which was intended to be submitted to the Council, regarding our findings in individual hospitals, and we presented a copy of that report to the hospital.

Q.—What did you personally do in that regard with reference to your examinations of the Washington hospitals? *A.*—I followed out those steps in regard to each of those hospitals.

Q.—I am going to show you a page of reports—five in number—and in order to keep the record straight, I will give you the number of this: It is U. S. 221, 218, 219, 220, 222. I want you to look those over and see if you can identify those papers. *A.*—221 is an inspection report I prepared about internship and application for residency in surgery in Providence Hospital.

218 was an inspection report I prepared about residency in obstetrics and gynecology at Columbia Hospital for Women and Lying-In Asylum.

219 was an inspection report I prepared regarding Washington Sanitarium and Hospital.

220 is an inspection report I prepared regarding internship and an application for a residency in surgery by Georgetown.

222 is an inspection report regarding intern training at George Washington University Hospital.

Q.—You identify each of those as your own report? *A.*—Yes.

Q.—What did you do with the copy of those, if you did anything? *A.*—The original one was intended or submitted to the Council on Medical Education and Hospitals, and the copy was sent to each hospital visited.

Q.—And did those reports conform to the reports which you had been submitting since you had been employed there? *A.*—They all followed this same general form.

Q.—Now, without going into the details of each report, how thorough an examination did you make of these hospitals? *A.*—We attempted to cover all the regulations which had been set up by the Council governing these various types of approval.

Q.—And without going again into the details of it, what were the general matters which you examined into with respect to each hospital?

Mr. Lewin:—Don't the reports show that?

Mr. Leahy:—I think so, but this method is so much quicker.

Mr. Lewin:—Well, I think the reports speak for themselves.

THE COURT:—Of course the reports speak for themselves, but if we can save time by having the witness summarize them I do not think it is objectionable.

Mr. Lewin:—What I am afraid of is that we will have both, the reports and the witness's summary.

THE COURT:—Well, you will have the reports; I will see to that.

Mr. Kelleher:—I think what Mr. Lewin means is, if the witness is going to cover the reports in summary they should not then be read to the jury.

THE COURT:—I see no harm in the question being answered by the witness.

By Mr. Leahy:

Q.—Doctor, will you just kindly look with me at these so we can hurry along. Did your report cover the object of your visits? *A.*—Yes, that was item No. 1.

Q.—For instance, on the report of the Providence Hospital, does it show the fact why you went to the hospital to make an examination of it? *A.*—Yes, the reasons are listed under the title "Object of Visit."

Q.—And that is what? *A.*—"Review of Internship," "Application has been received for approval of a residency in surgery."

Q.—Now, with reference to Georgetown, does that also show the object of the visit? *A.*—Yes, there is such a heading reading: "Report."

Q.—Does that also show that application has been made for approval of a residency in surgery? *A.*—It does.

Q.—The report then goes down in certain headings, general statement? *A.*—Yes.

Q.—And then you go into the staff organization? *A.*—Yes.

Q.—And there you give the type of staff: visiting, general, and then an analysis of the staff? *A.*—Yes.

Q.—In which you show the fellows of the American Medical Association, members of the American Medical Association, and the nonmembers of the American Medical Association. That is right? *A.*—Yes.

Q.—Do you also show whether it has a visiting, general dispensary? *A.*—Yes.

Q.—And then from that you go to the clinical material in the hospital? Department, outpatient department? And then you made an examination, did you, of the medical records? *A.*—Yes.

Q.—Reported thereon? *A.*—Yes.

Q.—Medical library? *A.*—Yes.

Q.—Reported thereon? *A.*—Yes.

Q.—Pathological service? *A.*—Yes.

Q.—Teaching plan for interns? *A.*—Yes.

Q.—And the intern committee? *A.*—Yes.

Q.—And reported on general medicine? *A.*—That is right.

Q.—Surgery? *A.*—Yes.

Q.—Obstetrics? *A.*—Yes.

Q.—Special instruction? *A.*—Yes.

Q.—And then on residencies? *A.*—Yes.

Q.—Staff coverage? *A.*—Yes.

Q.—And then and there you go, do you not, into an investigation into clinical material; basic training; regular duties; teaching duties; research clinics? *A.*—Yes.

Q.—What is meant by "fellowship" in dermatology? *A.*—A fellowship is slightly different than a residency, since it is ordinarily supported by endowment, but the terms are usually, that is the terms under which it is provided are usually controlled outside the hospital, ordinarily by a university, but the actual training is ordinarily given in a hospital, where the material is more available.

Q.—Then you examined, as far as Georgetown is concerned, the fellowship in medicine? *A.*—Yes.

Q.—And again the fellowship on radiology? *A.*—Yes.

Q.—And you went into that thoroughly? *A.*—Yes.

Q.—And then you concluded with a general summary? *A.*—Yes.

Q.—Now, what does your general summary state, not in detail, but what is the purpose of the general summary? *A.*—The purpose is to bring to the attention of the administration staff those findings which are most prominent and which need to be brought to their attention most forcibly.

Q.—And when you say the findings which need to be brought to their attention, what are they? *A.*—Substantially they are the recommendations which we think the hospital ought to put into practice.

Q.—It would be fair to say that the summary includes what your recommendations are to the hospital with reference to certain deficiencies found therein? *A.*—That is right.

Q.—Now, having gone through that report made at Georgetown, how did the reports for the other hospitals conform in general nature? *A.*—As far as my work was concerned they were all developed in this same way; some only referred to internship, others to residencies; still others to both.

Q.—Do you recall which hospital referred only to residencies? *A.*—Yes, the Columbia Hospital for Women and Lying-In Asylum.

Q.—Do you recall whether the Washington Sanitarium had been examined before? *A.*—I don't think I ever visited it.

Q.—Do you recall whether you had any information in the shape of a record indicating whether there had been a previous examination from the Council before you left? *A.*—I don't quite understand your question.

Q.—Do you know whether the Washington Sanitarium had been examined for approval before you left?

Mr. Lewin:—Object to the question. He said it had not.

THE COURT:—I think he may state whether the record shows it.

The Witness:—I would say yes, it had.

Mr. Lewin:—I move to strike that answer as unresponsive.

THE COURT:—Yes, that is unresponsive. The question is whether or not his preliminary examination, preparation for this examination, indicated that a previous examination had been made.

The Witness:—The hospital had been previously examined.

Mr. Leahy:—Now, let us go to Providence.

Mr. Lewin:—I still move that it be stricken as not responsive.

THE COURT:—I think that is sufficient. You may take that up on re-cross examination if you so desire and test his knowledge.

By Mr. Leahy:

Q.—Will you just glance through your report here, Doctor, as to Providence? There came a time when you also drew up the summary for that institution, did you not? *A.*—Providence, yes.

Q.—Without going into all the details of it, what have you to say as to the general character of the summary itself? *A.*—Here again it covers those points which I thought ought to be brought to the attention of the hospital in the shape of a few recommendations.

Q.—Perhaps if I read this back here I will not be standing between you and the jury:

"Providence Hospital ought to be in excellent position to provide high grade internships. Like all hospitals with essentially a private clientele, there are difficulties in establishing an active and progressive teaching program. The following recommendations are made:

"1. It is suggested that the details of appointment and supervision of interns be assigned to a separately organized intern committee which will report to the Executive Committee or the whole staff, as seems more desirable. Such a committee should consider adopting the following activities:

"a. Regular physical examination of interns at the outset of service including a flat plate of the chest.

"b. Adoption of regulations which will require that each intern maintain a record of the work he performs subject to check by the residents and countersign by the chief of service. Advantages are that obvious deficiencies in experience can be corrected and the hospital authorities may recommend or promote on a merit basis.

"c. Meetings should be held periodically with the interns to settle difficulties as they arise and to determine whether all interns are receiving a well balanced clinical training.

"d. Development of additional teaching exercises would improve the internship considerably, such as:

"1. Improved contact with clinical pathology and a controlled experience in that department and by the development of weekly clinical pathological conferences.

"2. Development of a clinical society by the interns themselves where they may invite clinicians to discuss subjects the interns select themselves."

What was the reason or basis for that recommendation that you made in that summary?

Mr. Lewin:—I object to that as immaterial.

THE COURT:—I am inclined to think, Mr. Leahy—will you gentlemen step here a moment?

By Mr. Leahy:

Q.—Doctor, I had just finished reading to you your first recommendation. Perhaps you had better have that before you. May I ask you what basis there was in fact for the recommendation that you made there? *A.*—We regularly suggested or recommended to the hospital staffs that they entrust the details of intern training, so far as appointments and development of the training schedule, to an intern committee. That was part of our regular practice.

Q.—Did you find an intern committee at Providence at the time? *A.*—Apparently not, because that is given very prominent place in my recommendation.

Q.—What is the importance of such a committee, Doctor? *A.*—It centers responsibility for the development of an educational service in a committee of the staff which has no other responsibility, and consequently they can organize the whole picture in much better fashion than without such a committee.

Q.—Where a hospital makes application for approval as a hospital for training interns, what importance does that recommendation have in connection with their application? *A.*—It gives us a very favorable impression if they do have a committee of that kind.

Q.—And if they have not, what do you do? *A.*—If they have not, we recommend very urgently that they do develop such a committee.

Q.—Just run your eye down across some of the subheadings and see what other basis in fact there was for the recommendation. *A.*—Under the major heading?

Q.—Yes. *A.*—We call attention to the fact that the committee could arrange for some supervision over the physical welfare of the interns by having physical examinations and x-ray pictures of the chest; and we suggest that regulations be adopted so that interns maintain a record of the work they perform, which would give them some insight into the broadness or diversity of the experience which they are having during their year or more of training. We recommend also that meetings should be held periodically between the interns and the intern committee so that matters may be adjusted as they arise, and then we further suggested in this instance that teaching exercises should be developed in connection with experience in clinical pathology and in clinical discussions through the formation of a society organized by the interns themselves.

That last recommendation deals with the fact that the interns presumably will know more themselves what kind of teaching they want—or I might put it better this way—what kind of instruction is missing in their ordinary daily duties, and this would supplement their ordinary clinical training to that extent.

Q.—The fact that those suggestions were made by you in the shape of recommendations indicates what, Doctor, with reference to whether those facilities existed at Providence at the time you made your examination? *A.*—The fact that they are included in the summary means that they did not previously exist, and I made this recommendation that they should be installed or developed.

Q.—How did those recommendations which you made in that regard conform to the requirements of a registered hospital for intern training? *A.*—This would bring the educational service at Providence Hospital in line with the recommendations which had been developed by the Council covering this question of training.

Q.—And in the event that those recommendations were not followed or pursued, what effect would that have on the application of the hospital for approval for intern training?

Mr. Lewin:—Objected to. This gentleman has been qualified as an inspector. What happens to the hospital depends on the action of the Council.

THE COURT:—Yes. I think he may speak generally, not with respect to this particular hospital, but with respect to certain facts known through his experience over the years.

A.—These reports would be submitted to the Council and action would be taken in respect to the closeness with which these hospitals conform with the regulations which had been set up for intern training.

By Mr. Leahy:

Q.—And where a hospital is found not to conform, in your experience what has been the action of the Council? *A.*—We felt that they should give up their approval.

Q.—If they were initially seeking approval? *A.*—We felt that these regulations should be reached before definite approval was assigned.

Mr. Lewin:—I object to that as not responsive. What he felt does not make a bit of difference.

By Mr. Leahy:

Q.—Does that express, in your experience, Doctor, the action of the Judicial Council where a hospital is making application for the first time for intern training or for a residency in surgery, if it does not comply with the recommendations made after an inspection of it?

THE COURT:—You refer to the District Council?

Mr. Leahy:—I mean, the Council on Medical Education and Hospitals.

Mr. Lewin:—The best proof of that is what the Council does.

THE COURT:—That is true; but that would cover years of action by the Council on hundreds of applications, and we cannot delve into those things.

Mr. Lewin:—I think he could summarize it without going into all these detailed records.

THE COURT:—He may answer.

The Witness:—The effect of nonobservance of these matters brought out in the summary to this report or similar reports would be substantially as stated, in my opinion.

By Mr. Leahy:

Q.—And that is that the hospital would or would not get approval? *A.*—It would not be approved unless these recommendations were observed.

Q.—Did you make any further recommendation with reference to any other condition existing? *A.*—Yes. There are several additional recommendations.

Q.—Look at your second recommendation there and tell us what that represents. *A.*—That refers to the clinical records in the hospital.

Q.—What, in substance, was your recommendation in that regard? *A.*—My recommendation is that much more attention should be paid to the character of clinical records written by the interns. Since that is an exceedingly important part of their training, we pay a good deal of attention to that factor; and I make recommendations regarding the importance of actual work done by the interns and the amount of supervision exercised over this part of their training by the attending staff.

Q.—Why is that such an important part in the training of an intern—keeping proper clinical records? *A.*—He is a good physician or a poor one depending on the character of the records he keeps; and we try to instil that into him from his earliest medical training.

Q.—What was the basis for the recommendation at the time of your inspection? *A.*—I found that improvement could very easily exist in that respect in regard to this hospital.

Q.—What did you find as your first recommendation, Doctor, with reference to the manner in which the records were kept at the time? *A.*—May I read it?

Q.—Read the first sentence:

"At the present time there is no tradition for good records in Providence Hospital."

Q.—Did you make any other recommendation as to conditions that should be corrected? *A.*—I bring out the fact that the intern relationship to the hospital record system should be adjusted, uniform rules for recording histories and physicals should be adopted, progress notes regularly written and a working diagnosis arrived at in all cases. Interns will not write histories conscientiously if no attention is paid to their efforts. Attending physicians should countersign records on their own private cases or delegate this duty to the residents since the ward services are small. This step can readily occur at rounds. All final diagnoses should be signed by the attending physicians.

There is another paragraph:

"Statistical reviews should be improved through recording by services, the number of admissions, discharges, conditions on discharge, infections, consultations, deaths, and autopsies. Where organized hospital services exist, it is usually preferable to submit service statistics at departmental conferences rather than before the entire staff."

Q.—Of what importance were those various records and matters and things which you recommended and put in your report? *A.*—This is, we think, of considerable importance, since it constitutes the basis for a man's educational experience in his hospital year or years. It is on this kind of training that he develops his own professional approach to the work-up of an individual case.

Q.—Did you make any further recommendation with regard to that problem? *A.*—I have another recommendation regarding autopsy performance.

Q.—Of what importance is autopsy performance in any hospital which is seeking approval for intern training? *A.*—Autopsy performance is our best index of the diagnostic acumen of the staff; that is, the findings pre mortem as against the findings post mortem.

Q.—Where would this fit into the training of an intern or resident? *A.*—We would know through an examination of the statistical material and reports of that character how well the diagnosis agreed with the findings at postmortem examination.

Q.—What condition did you find to exist as the basis of your recommendations? *A.*—I say here that:

"The autopsy record is susceptible of great improvement. One hundred autopsies a year should not represent great difficulty. Coroner's autopsies are not considered as useful educationally unless it is possible for house officers to witness the procedures and suitable protocols are available for the hospital files."

Q.—Were there any other recommendations than those? *A.*—The fourth recommendation refers to the availability of a suitable medical library and medical reference works.

Q.—Of what importance is it in the training of a young intern or resident to maintain a library in a hospital? *A.*—It is of the greatest importance that he have access to the recognized literature in medicine describing diagnoses and treatment of disease.

Q.—What condition did you find to exist at the time of your inspection? *A.*—I recommend that regular provision should be made for the medical library as a joint hospital staff enterprise. Use of reference material is best secured by the development of an intern journal club whose activities might well be integrated with the clinical society mentioned above.

Q.—And the fact that you made that recommendation indicates what, if anything, in connection with the library facilities for the instruction of young interns and residents in Providence Hospital at the time you inspected that hospital? *A.*—It means that the collection available at Providence at the time I inspected it was probably below the status recommended by the Council on Medical Education and Hospitals.

Q.—Were there any further recommendations? I recommend to the Council that approval of a residency in surgery should await response to the listed recommendations, especially improved control over the surgical records, development of weekly grand rounds, improved autopsy performances on surgical cases and better contact with autopsy and surgical histopathology.

Q.—The result of your recommendation, then, Doctor, with reference to the granting of the approval which Providence sought in its application was that it should be granted or denied or withheld until you could see what Providence would do? *A.*—That it should be withheld. That refers to the recommendations for approval of a residency as to surgery.

Q.—In your experience as an inspector, where a recommendation has come from you to your Council that approval be withheld until the hospital acts on the recommendations made, what has been the action of the Council with reference to your recommendation? *A.*—They would ordinarily follow out our recommendation.

Q.—Without going into all of the other reports in that fashion, I will just ask you this question, Doctor. Did you, with reference to each hospital which you inspected, make a summary of recommendations of what you found to be in your judgment the conditions which should be improved? *A.*—I did.

Q.—Do you recall how long you were in Washington upon that particular occasion? *A.*—I should say I spent a day in each hospital, so I would feel that I was here five days.

Q.—Do you recall any further correspondence in connection with the reports which you have just identified? *A.*—Yes. We submitted a copy of the report to the hospital.

Q.—Is that copy here? I do not happen to have the number. After you had submitted, as you have stated, this report to the Council—I think you told us you also submitted a copy of the report to the hospital? *A.*—Yes, sir.

Q.—Did you follow that practice in this instance? *A.*—Yes, sir.

Q.—How is it that you forward a copy of the report to the hospital? How do you do that? *A.*—We send them a copy of the report with a letter calling attention to the general contents and particularly to the specific recommendations.

Q.—At the time, Doctor, that you received, or the letter which Dr. Cahill wrote to Dr. Wilmer first came to your attention, did you know anything about G. H. A.? *A.*—No, sir.

Q.—Had you ever heard of it? *A.*—No, sir.

Q.—When you wrote your letter in reply to the letter which Dr. Cahill had written had you then learned anything about G. H. A.? *A.*—No, sir.

Q.—When you came to Washington to make an examination and inspection of the hospitals that you did examine or inspect, had you heard anything about G. H. A.? *A.*—No, sir.

Q.—Had any one discussed G. H. A. with you? *A.*—Not at all.

Q.—Had Dr. Cutter? *A.*—No.

Q.—Had any one at all discussed G. H. A. with you in any way, shape, or form? *A.*—Not in any way, shape or form.

Q.—Did the examination which you made of the hospitals and their inspection have anything to do in your mind with G. H. A. in Washington, D. C.? *A.*—No, sir.

Q.—At any time did any of the recommendations which you made in your report to each of the hospitals relate in any way to G. H. A.? *A.*—No.

Q.—Subsequently in the correspondence was anything said by you or anything done by you in connection with these examinations which had anything to do with G. A. H.? *A.*—No, sir.

Q.—When was the first time that you ever heard of G. H. A.? *A.*—I read a description of G. H. A. in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Q.—And do you recall when that was? *A.*—That was late in the fall of that year.

Q.—Do you recall now whether you personally conducted the correspondence with the five hospitals which you had inspected in Washington following your submitting to them copies of the reports which you have before you? *A.*—No.

Q.—Was it done by somebody else in the office, if you can recall? *A.*—Well, the general plan was for the inspector to prepare a letter of transmittal for Dr. Cutter's signature.

Q.—But should other correspondence be had following the letter of transmittal, who would conduct that correspondence? *A.*—Ordinarily, Dr. Cutter.

Q.—Do you recall in the instance of these hospitals here which we have just been discussing whether you or Dr. Cutter conducted the correspondence? *A.*—I should say, Dr. Cutter.

Q.—With respect to the letter of transmittal you just mentioned, did you at any time draw the attention of any hospital in Washington—and I am referring to any one of the five about which we have been talking—to a resolution called the Mundt Resolution? *A.*—In the letter of transmittal?

Mr. Levin:—He said Dr. Cutter wrote these letters, and they are in evidence and they quote the Mundt Resolution.

Mr. Leahy:—If your Honor please, he has just stated that it was the habit or custom of the inspector to prepare the letter of transmittal for Dr. Cutter's signature. Am I wrong about that?

THE COURT:—I think you are right about that; but the letters are in evidence and they speak for themselves.

Mr. Leahy:—I did not have them before me, and I was just trying to summarize them.

By Mr. Leahy:

Q.—Did you or did you not do that?

Mr. Lewin:—I object to that. The letters speak for themselves. There was only one letter and that was from Dr. Cutter, he said.

Mr. Leahy:—Let us get this straight, because he did not say that the only letter was from Dr. Cutter. He has just reiterated that he prepared the letter of transmittal for Dr. Cutter's signature.

Mr. Lewin:—What is the difference between the two statements?

Mr. Leahy:—There is just enough difference so that one is right and the other is wrong.

THE COURT:—Produce the letter and let us have it settled.

Mr. Leahy:—I am told that it is No. 239.

By Mr. Leahy:

Q.—I am now going to show you what has been identified as No. 239, dated Aug. 21, 1937. Would you kindly run your eye down that letter and see if you have any recollection about it? *A.*—Yes. This letter is dated Aug. 21, 1937, sent to Sister Margaret, Providence Hospital, Washington, D. C. It calls attention to my inspection report of Providence Hospital.

Mr. Lewin:—He was asked whether he had any independent recollection of it.

THE COURT:—Yes.

By Mr. Leahy:

Q.—Do you recall the letter now? *A.*—Yes.

Q.—Do you recall now who dictated it? *A.*—I did.

Q.—After you dictated it, where did you send it? *A.*—I sent it to Dr. Cutter for his signature.

Q.—What was the custom with reference to initials, and so forth, on the bottom of pages where a letter was for Dr. Cutter's signature? *A.*—His initials appear followed by the stenographer's, and underneath are my own, indicating that I prepared the letter for him.

Mr. Kelleher:—If your Honor please, I think it should be understood that the filing cabinet with Government Exhibits in it is accessible to both sides, and we will be willing to try to accommodate counsel as much as possible, and they are welcome to go there as much as they want to.

THE COURT:—I do not think there will be any trouble about that. I should think that primarily the exhibits offered by the Government should be produced when called for, and on the other hand I think as to exhibits offered by the defendant they should produce them—in other words, cooperate with each other.

Mr. Kelleher:—We want to, your Honor; but I merely point this out because we are not permitted to keep these documents ourselves; they are kept in the custody of the Marshal.

By Mr. Leahy:

Q.—Doctor, I want to draw your attention to this letter which you wrote to Providence Hospital. It encloses, as it states, a copy of your notes and recommendations, referring to opportunities available for interns at Providence Hospital, and you say:

"Please refer this statement to the officers of the staff and membership of the Executive Committee.

"You will recognize that there are several factors that are not in conformity with the Council's regulations governing internship approval."

What were those factors? You say there are several factors not in conformity with the Council's regulations. *A.*—Those factors were the ones enumerated in the summary of the report.

Q.—The ones that your attention has just been brought to? *A.*—Yes.

Q.—And which you just explained to us? *A.*—Yes.

Q.—(Reading):

"It is a matter of great interest to this office, therefore, to learn whether the recommendations enumerated at this end of the report are acceptable or not. As matters stand now we believe quite likely that when this statement is submitted to the Council at its regular meeting early in November internship approval will be withdrawn."

To what were you referring as the basis of your belief when you dictated that letter, that internship approval would be withdrawn from Providence? *A.*—Here, again, I referred to the recommendations contained in the summary of the report regarding conditions I found in Providence Hospital.

Q.—Doctor, in that report you also made an analysis of the staff to which your attention was directed as I went over the report with you. Do you recall? *A.*—Yes.

Q.—I will ask you whether or not the analysis of the membership of the staff had anything to do with the paragraph which you have just read? *A.*—No; it had nothing to do with that.

Q.—To what, exclusively, did that paragraph refer when it said that intern approval would very probably be withdrawn? *A.*—To the statements in the summary regarding the matters that I found below par in respect to intern training.

Q.—(Reading):

"Similarly the application for approval of a residency in surgery is held in abeyance pending adjustment of the present situation."

To what did you refer by the phrase "present situation"? *A.*—Those factors which I felt were still below the standard recommended by the Council regarding the training of a surgical resident.

Q.—You called attention in the concluding paragraph of your letter to the Mundt Resolution, so called, did you not? *A.*—Yes, sir.

Q.—Why, Doctor, was the Mundt Resolution referred to in this particular letter? *A.*—We were calling the attention of all hospitals to the Mundt Resolution as we inspected them in relationship to our inspection program.

Q.—What difference was there in your conduct when writing this particular letter to Providence Hospital and to other hospitals you inspected at the same time? *A.*—We followed this same procedure.

Q.—With reference to all hospitals? *A.*—All hospitals approved for internship and residencies.

Q.—Now, Doctor, I want to bring your attention to certain other letters which were written. I show you one to George Washington University Hospital. Who dictated that letter? *A.*—I did.

Q.—(Reading):

"The enclosure is a copy of Dr. C. M. Peterson's report on the present status of intern training at George Washington University Hospital. We should like to have you refer this statement to those on your staff who are interested in or responsible for the internship program. A number of suggestions are incorporated at the end of the report, and it would be a matter of interest to this office to learn whether these suggestions are acceptable or not. They represent developments which, in our experience, have proved to be of real value elsewhere.

"May we call your attention to the Mundt Resolution."

. . . . . .

"Analysis of the staff is included in the report. What possibility, if any, exists for the observance of this recommendation at George Washington University Hospital?"

Now, Doctor, in the report which you sent to George Washington University Hospital was any indication contained therein with reference to what the Council might or might not do as to recommending its internship approval?

Mr. Lewin:—Objected to. The letter certainly speaks for itself.

THE COURT:—Yes.

By Mr. Leahy:

Q.—Take the letter to Sister Mary Rodriguez at Georgetown University Hospital. Who dictated that letter? *A.*—I did.

Q.—(Reading):

"A number of recommendations are incorporated at the end of the report. It is a matter of interest to this office to learn whether in your opinion these suggestions can be adopted. In consequence, any supplementary information which you care to submit will be appreciated.

"In respect to the residency in surgery, your attention is called to the components which need further attention before full approval can be assigned."

And then the same language with reference to the Mundt Resolution? *A.*—Yes, sir.

Q.—In your letter to the Washington Sanitarium and Hospital at Takoma Park you say:

"Your particular attention and that of other members of your staff is called to the recommendations enumerated at the end of the statement. It would be a matter of interest to this office to learn whether you consider these recommendations acceptable and the possibility for their adoption in your educational program. Such a statement would be useful to the Council when it meets in October, in order to determine whether internship approval should be continued or not."

Then you call attention in the same language again to the Mundt Resolution? *A.*—Right.

Q.—In the one to the Columbia Hospital for Woman, after stating that you are enclosing your report, you say:

"It is a matter of genuine interest for this office to learn whether these suggestions are acceptable or not, preferably in advance of the next meeting of the Council which will occur early in November."

Then it says that it is judged from certain remarks that remedial measures have already been instituted. Then you again draw attention to the Mundt Resolution, and conclude:

"What possibility, if any, exists for observance of this principle in your hospital?"

Is that right? *A.*—Yes.

Q.—In calling the attention of the five hospitals which you inspected here in Washington, to the Mundt Resolution, what connection, if any, was there between G. H. A. and your calling the attention of the hospitals to the Mundt Resolution? *A.*—There was no connection at all.

Q.—When you wrote those letters had you heard anything about G. H. A.? *A.*—Not at all.

CROSS EXAMINATION

By Mr. Lewin:

Q.—It is true, is it not, Doctor, that in each of these five reports, for each of the five Washington hospitals, you did report on the staff membership? *A.*—We customarily did in all reports; yes.

Q.—And you did it in these five reports, did you not? *A.*—Yes.

Q.—Did you not do that pursuant to the Mundt Resolution? *A.*—No.

Q.—No? You mean to say that you were not instructed to do that by the Council on Medical Education and Hospitals? *A.*—In reference to the Mundt Resolution?

Q.—Yes. *A.*—No. I was not so instructed.

Q.—Do you know anything about this minute of the meeeting of the Council on Medical Education and Hospitals held Feb. 15, 1936, with regard to the resolution of the House of Delegates adopted at Cleveland? The Mundt Resolution was adopted at Cleveland, was it not? *A.*—I believe so.

Q.—(Reading):

"That physicians on the staffs of hospitals approved for intern training by the Council be limited to members in good standing of their local medical societies. It is suggested that in making reports on intern hospitals the Council's inspectors include an analysis of staff affiliations; that is to say, that they indicate which are fellows of the A. M. A., which are members and non-members. Such a report sent to the superintendent of the hospital would have a good effect."

Were you not familiar with that? *A.*—I believe I attended that meeting of the Council; yes.

Q.—Would you say now that the reason you were required to report on the staff memberships when you inspected these hospitals was because of the Mundt Resolution? *A.*—Our principal approach to the staff analysis was in relation to the character of men who were to be responsible for the training of interns.

Q.—Wait a moment. Did you go into the character of the invidual members of the staff, or did you simply go into the question of whether or not they were members of your Society? *A.*—We obtained staff lists of the hospitals at the time we visited them and referred them to the list we had in our own office regarding their membership in the A. M. A.

Q.—Did you study and report on the individual characters of the staff members? *A.*—We took into consideration memberships in other societies as well, particularly special societies.

Q.—Did you take into consideration the membership on the staffs of any of these five hospitals in societies other than the A. M. A.? Will you look at those reports, please? *A.*—In connection with George Washington Hospital it appears that the staff, for example, is made up of the faculty of George Washington University School of Medicine, which would be a factor in its favor, as far as experience in teaching is concerned. I do not see any analysis of the staff here in this report.

At Georgetown the analysis refers to membership and affiliation and nonmembership in the American Medical Association.

Q.—I did not ask you that. I asked you whether you analyzed the affiliations of staff members with other societies than the A. M. A. and whether you reported on them. *A.*—Yes. I call attention to certain of the executive and visiting staffs being professors, associate professors, assistant professors in Georgetown Medical School.

At Columbia Hospital I call attention to the proposal for the development of eligibility to certification by the American Board of Obstetrics and Gynecology.

Q.—What is that? *A.*—That is a certifying agency which, through a system of examinations, establishes the competency of a man in the specialty of obstetrics or gynecology.

Q.—Is it in connection with the A. M. A.? *A.*—Yes. They have representatives on the Examining Board from the appropriate section of the A. M. A.

Q.—Is it confined to A. M. A. members? *A.*—Membership in the A. M. A. is one prerequisite for certification.

Q.—I want to know what reports you made upon staff affiliations in societies other than the A. M. A.

Mr. Richardson:—He has told you.

Mr. Lewin:—He has told me about some professorship at local medical schools.

By Mr. Lewin:

Q.—Have you not? *A.*—Yes.

Q.—Is that all? *A.*—And the matter we have just discussed about special certification.

Mr. Leahy:—Go ahead through the others, Doctor.

The Witness:—In respect to Washington Sanitarium, the hospital itself had some specific rule regarding staff appointment which I do not recall at the moment; and in respect to Providence Hospital no other affiliation is mentioned, as I read this now, other than the American Medical Association.

By Mr. Lewin:

Q.—You were interested, you say, in reporting on the membership of nonmembership in the A. M. A. because you were interested in the character of the men who were instructing the interns; is that right? *A.*—Yes.

Q.—And you confined your study of their character to ascertaining whether or not they were members or nonmembers of the A. M. A. That is what that means, does it not? *A.*—If you will include that certain references are made to other affiliates.

Q.—And those are the references that you have given, that some were professors in some of the medical schools? *A.*—Yes, sir.

Q.—What is your testimony now, since I read you this minute of your Council, as to whether or not your purpose of studying and reporting on staff affiliations was connected with the Mundt Resolution and grew out of the Mundt Resolution? *A.*—I can say this speaks for itself.

Q.—What does it speak? Are you in agreement with it? Did it grow out of the Mundt Resolution or didn't it? You testified to the contrary a moment ago. Does it speak correctly for itself? *A.*—This does not quote the resolution as such.

Q.—Does it refer to the Mundt Resolution or not? It says "the resolution adopted at Cleveland with regard to staff membership." *A.*—I should say that it referred to the Mundt Resolution.

Q.—Then your testimony would be that your practice in reporting on affiliations with the A. M. A. directly grew out of the Mundt Resolution, would it not? *A.*—As regards this action, yes.

Q.—As regards your action in making these reports, yes; is not that correct? *A.*—I thought you said that it grew out of this statement.

Q.—I asked you whether your action in making these reports on the five Washington hospitals as to staff affiliations with the A. M. A. did not grow directly out of the Mundt Resolution? *A.*—Yes.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, is there anything which you indicate in any one of these reports as to whether the members on the staff of any of these hospitals belonged to any other organizations? *A.*—Is there any statement in the reports to that effect?

Q.—Yes. *A.*—No. I did make the statement that they belong to faculties of medical schools and that certain of them are qualified.

TESTIMONY OF J. FRANCIS MOORE

DIRECT EXAMINATION

By Mr. Leahy:

J. Francis Moore said he had been employed by the Home Owners Loan Corporation as Secretary to the Board since November 1939. He produced and identified part of the official records of the Home Owners Loan Corporation.

TESTIMONY OF LOGAN S. GAIN

DIRECT EXAMINATION

By Mr. Leahy:

Logan S. Gain said that he was employed as assistant treasurer of the Home Owners Loan Corporation and had been for about seven years.

He produced records from the Home Owners Loan Corporation.

(To be continued)

PHYSICIANS IN INDUSTRIAL PRACTICE

The Committee on Medical Preparedness, with the cooperation of the Council on Industrial Health of the American Medical Association, prepared a special questionnaire to be sent to industrial physicians. This schedule requested detailed information of the physician's training and experience in industrial medicine.

The names of physicians engaged in or interested in industrial practice were obtained from two sources: First, in coding the regular Medical Preparedness schedules, all physicians who indicated in some way on their schedule that they were interested in industrial medicine were coded for industrial practice and a list of names was made up from the names on these schedules. A special questionnaire relating to industrial practice was sent to each name on this list. Second, the names obtained in this way were supplemented by names of physicians engaged in industrial practice which were already in the files of the Council on Industrial Health.

Up to March 1, 10,134 special industrial schedules had been mailed out to physicians, and 6,332 of the physicians had replied.

Of the total that replied, 4,981 were now engaged or had experience in industrial practice and completed a schedule. The remainder, or 1,351, indicated in their reply that they were not engaged or interested in industrial medicine. It is not known how many of the 3,802 physicians who have not replied are engaged in industrial practice. Follow-up letters with another schedule will be sent to these physicians in an attempt to obtain information from them.

Up to this date, 4,434 industrial schedules have been coded, edited and sent to the International Business Machines Corporation Service Bureau, where the information was transferred to punch cards. The remaining 547 schedules which have been received have been coded and edited, but the information has not been transferred to punch cards as yet.

A listing of the information from 4,434 punch cards on hand as of March 1 was made according to the type of practice and according to the percentage of time the physician devoted to that particular phase of medical service. The physicians are listed on special sheets by state, and, in addition to showing the type of practice and amount of time devoted to that particular practice, other data which were provided on the schedule are also shown. The accompanying table shows the number of physicians engaged in industrial practice according to a tabulation of the type of practice and time devoted to practice.

Types of Practice of Industrial Physicians, Based on 4,434 Punch Cards, March 1, 1941

Type of Practice	Percentage of Time Devoted: Full Time	More than Half Time	Less than Half Time	Total
General industrial practice	866	1,079	1,022	2,967
Traumatic surgery	100	264	313	677
Occupational disease control	8	5	11	24
Plant medical department administration	103	20	16	139
Toxicology	7	2	8	17
Physical examination	26	35	54	115
Health education of employees	1	2	1	4
Industrial hygiene teaching	1	..	4	5
Industrial hygiene research	7	..	1	8
Governmental industrial hygiene administration	20	2	2	24
Casualty insurance administration	11	5	2	18
Workmen's compensation administration	19	12	18	49
Civil service medical examinations	2	2	2	6
Private industrial hygiene consultant	6	10	17	33
Total	1,177	1,438	1,471	4,086

Punch cards from 348 schedules did not contain sufficient information to be classified under the headings given.

This is only a partial tabulation of the industrial physicians in the United States. As additional schedules are received, punch cards will be prepared and later tabulations will show more complete figures.

OFFICIAL NOTES

ANNUAL CONGRESS ON INDUSTRIAL HEALTH

Third Annual Meeting, held in Chicago, Jan. 13 and 14, 1941

DR. STANLEY J. SEEGER, Milwaukee, in the Chair

JANUARY 13—MORNING

Report of the Council on Industrial Health

DR. STANLEY J. SEEGER, Milwaukee: As an initial activity, the Council on Industrial Health of the American Medical Association undertook to define the problems of health in industry and to learn what was done and is being done about these problems. The Council has placed emphasis on the large number of workers who are under the care of the general practitioner. Contrary to common impression, industry in this country is made up predominantly of small units. Ninety-seven per cent of all manufacturing concerns employ fewer than two hundred and fifty men, and almost seventy thousand of them employ five wage earners or less. From the point of view of preventive industrial medical service, the field of the small plant is almost unexplored. When it is found possible to extend qualified preventive assistance to such concerns, through the joint agencies of private practice and public health administration, satisfactory to those who supply the service and to those receiving it, an achievement will be recorded in which all elements in the medical profession can take lasting satisfaction.

The Council is perfecting machinery so that it may act as a clearing house in this field. It has established contacts with organizations representing the nursing profession and industrial hygiene engineers, with industrial commissions, with insurance carriers, with representatives of industry and of labor. These numerous contacts have demonstrated that the field of industrial health is complex and contentious and that conditions of work and their effect on the health of employees will eventually bring a wide range of interests within the sphere of legitimate medical activity.

The development of the preparedness program has brought to maturity situations in medical industrial relationships which have been known to exist for many years and it has created new developments. In common with all other agencies of the American Medical Association, the Council on Industrial Health has tendered its services to the federal government in the prosecution of defense measures. It has acquired information about the activities of all major medical agencies interested in the health of workers. It has conducted a census of physicians who confine their interests or give special attention to industry throughout the nation. It has investigated the facilities that are available for industrial medical training and has arrived at conclusions about what needs to be taught, both before and after graduation.

At the recommendation of the Council, cooperating committees in the state medical societies have been formed in the industrial areas and in a great many counties.

The Physician in Industry and National Defense

DR. IRVIN ABELL, Louisville, Ky.: If industrial production is to contribute in full measure to national defense, the medical profession must assume greater responsibility and participate more fully in health maintenance programs for industrial workers. The essential nature of this responsibility lies in the fact that, as warfare is now waged, the mental and manual work of twelve (to state the proposition conservatively) is necessary to maintain one effective combatant in the field. Loss of working time by skilled and indispensable craftsmen must be regarded as wartime casualties equal in importance to those which occur in actual combat. The same careful mobilization of medical and hygienic resources will be required to keep them under control.

The survey of the medical profession by the Committee on Medical Preparedness will define clearly actual shortages which exist in medical personnel capable of immediate service as industrial physicians, administrators and consultants. Sufficient information has been accumulated making it certain that such shortages exist, as no doubt is the case in other classifications of industrial health personnel, notably engineers and nurses.

In view of these limitations in qualified personnel, two steps seem practical and logical. The first is that physicians in industry should not be assigned to services of strictly military nature unless special experience, training or previous commitments make such a procedure unavoidable. The other is to explore all available opportunities for instruction in the special technics of industrial medicine and hygiene to the end that an adequate reservoir of well trained physicians and hygienists be regularly available. It is not too early to begin such teaching in the undergraduate curriculum. More important at the moment is the development of teaching programs for practicing physicians ranging from the introductory or refresher type of course to short intensive instruction of three to six months' duration arranged by professional schools or medical societies or in combination. It must be regarded as most unwise to assign to military service physicians able and willing to instruct others in the nature and methods of industrial practice.

Physicians working in the industrial field are highly competent in their own special jobs, but as far as munitions are concerned they are untrained. The primary need in the present emergency is an increase in the number of physicians and engineers qualified in industrial health and medicine and their further training in the requisites for control of the hazards of war industries. This task can be successfully accomplished by avoidance of duplication of effort and by harmonious and constructive endeavor on the part of all concerned.

The physician in industry will make many and notable contributions to the national defense. Some special form of recognition or commission ought to be devised which could make certain in the minds of physicians that a medical appointment in industry must be regarded as equal in importance and dignity to an assignment with the combat forces.

Current Needs in Industrial Hygiene Research

PHILIP DRINKER, Boston: Toxic solvents requiring study should be selected according to a threefold scale of practical urgency: their war or peace time usefulness, their physical and chemical properties and their toxicity. Inhaled gases or vapors, whether they react physiologically or are nonreactive, exert their special effects only when they have been dissolved in the blood or other fluids. Biochemical laws can be given in comparatively simple chemical language, once a few fundamental constants are known. Blood saturation due to any particular vapor concentration as well as blood desaturation can be determined whenever the toxicity of a given gas or vapor is known.

Research problems persist whenever the solubility in blood, urine or lymph of a given toxic gas or vapor is not known. Such is toluene, a substance of vast importance in the national defense program. For producing toluene the government is building huge plants in the manufacture of trinitrotoluene. Likewise, in the making of cellulose-acetate rayon it is not unusual to find fairly high concentrations of acetone. Since acetone has the same effect on man as ethyl alcohol, the effects of chronic exposure, especially in explosives manufacture, cannot be ignored.

There is also a great need for better methods of detecting small amounts of solvents and other substances in blood and urine. In problems of industrial hygiene, saturations are measured in micrograms per cubic centimeter of blood. There are not many industrial solvents which today can be measured accurately in such small concentrations. Yet industrial hygiene demands and expects to get great improvement in methods for detecting absorption by man of the common industrial solvents. Carbon disulfide, for example, is an important industrial solvent and is essential to the manufacture of viscose rayon. If chemical procedures can be refined still more, it may be possible to detect easily absorption of carbon disulfide in either blood or urine far below the level which might indicate or warn of possible harm.

Data are urgently needed to determine the possible irritation of pulmonary tuberculosis from breathing solvent vapors or gaseous irritants. Accumulated experience on the effects of various associated pneumonias and of the irritant gases used in the last war suggests that it is not pulmonary inflammation per se that has an unfavorable influence. Rather, it is some specific peculiarity of an inflammatory state, such as that in influenzal pneumonias. This is not at all a difficult type of research and it is one which will benefit industry greatly.

Unusual outbreaks of industrial dermatoses, like other occupational diseases, are definitely preventable. Frequently the offending agent is one the harmful nature of which should have been known or could have been determined had advice been sought. Not infrequently, trouble results because the true chemical name of the offending substance was concealed by some trade name or catch title, like solvent 10X. It is time that industrial medicine and industrial hygiene prohibited the use of substances that are not properly labeled. The use of brief names, like aspirin, are a help in industry, but the true composition should be given also, just as it is with proprietary medicines.

The etiology of silicosis has been extensively studied. However, one can determine physiologically the potency of a new dust without studying the possible tuberculosis complications. After all, only silica and asbestos have proved of serious consequence from the standpoint of subsequent or previous tuberculous infection. In investigating the potency of a new dust the question is, therefore, To what degree does it do what either silica or asbestos does? All of us are watching with keenest interest the Canadian experiments on the possible use of aluminum dust to prevent or to reduce the severity of silica dust exposures.

One of the most important jobs in the construction of ships, tanks, cars and even of airplanes is welding, especially electric welding. Some of these jobs require the welder to work in small spaces, as in bulkheads of ships, in which adequate ventilation is difficult. Under reasonable working conditions there is no health risk from either gas or electric welding, but welding in unventilated confined spaces is dangerous. In such cases the welder should wear an appropriate mask, preferably one with a supply of fresh air.

The Special Nature of Industrial Practice

DR. C. O. SAPPINGTON, Chicago: In a questionnaire sent out by the American Medical Association to which 120,000 physicians had replied, only 1,283 physicians could be recorded as competent in industrial medicine. The employer-employee relationship is the one important factor that distinguishes industrial from private practice. That relationship brings to the industrial scene industrial nurses, hygienists, chemists, medical specialists, safety engineers, insurance men, legislators, courts, commissions and boards and attorneys, all of whom are vitally interested in the same objectives—health promotion and health supervision in industry. In industrial practice the etiology lies in an industrial environment and therefore deserves special consideration. It is not expected that the private practitioner will be competent to investigate the technical aspects of dusts, gases, vapors and fumes in industrial occupations or do illumination or ventilation tests; it is expected, however, that he will take such factors into consideration. He should be able to take a thorough history of industrial occupations so that it would indicate what points might be important in the diagnostic and laboratory methods to follow.

When examining employees for industrial work he should know (1) the nature and severity of the industrial exposure where the employee is going or has been, (2) whether that exposure is adequately controlled or represents a health hazard —if the latter, whether supplementary protection can be or has been provided, and (3) whether the examinee possesses any defect which might be adversely affected by the employment or might of itself cause disability or incapacity. There must be special examinations for different types of exposure. Until we can make our examinations more specific and more industrial in type, we cannot expect that the results will be specific.

Diagnosis in occupational and nonoccupational diseases among industrial employees has come to be difficult both for private and for industrial practitioners. There are a number of instances in which well known occupational maladies simulate nonoccupational sickness and contrariwise. It is of the greatest importance that the etiology be taken into consideration when making the diagnosis, for there must be a causal relationship between the industrial environment and the disease if the illness is to be directly ascribed to industrial factors. Health supervision methods in industry are of unusual type. The supervision of the correction of physical defects is vital to the continued health of the employee. It is not expected that the industrial medical staff shall do the correction of physical defects, which should be referred to the private practitioners, but, rather, it is expected that it shall follow up the industrial employee and see through proper arrangements that correction is made.

The practice of first aid to illness in industrial dispensaries has been a question for years. The majority of industrial employees do not go to their private physicians for headache, constipation, colds, periodic disturbances and the like, which make up the most of these sickness first aid calls in any industrial dispensary. It should now be conceded that such practice, without actually carrying treatment further, is within the scope of industrial health work.

Nowhere in the field of industrial practice is the test of scientific application so great as in medicolegal problems. For it is here that the physician and surgeon must prove his contentions and establish his proof by the judicious admixture of scientific data with common sense. Here is applied real cause and effect reasoning through the detailed consideration of medicolegal technicalities, which must rest on a background of thorough records and investigations.

DISCUSSION ON NEEDS OF INDUSTRY

COMMANDER C. S. STEPHENSON, Washington, D. C.: The Navy is one of the largest employers of labor. It is astonishing the number of hazards that we have got in the Navy. It is also astonishing the small amount of damage that occurs. One of the reasons is that we are attempting to approach these hazards in a realistic manner. It has been my pleasure for several years to teach in the Navy Medical School. I have done everything I could to invite to the attention of those young men who are going out into our industrial organizations and to the ships at sea that if they will apply the knowledge that is already available they will not get into much trouble. We bring them in from our standard medical schools, from their internship, and we are not concerned with their ability to handle the average situation that comes up from a surgical standpoint. Whenever a surgical case is seen in the infirmary or the hospital, one of the fundamentals of industrial medicine has broken down; that is, it actually should not have occurred. A large number of people are doing a creditable job in industry, but they are not prepared to take over the survey and to determine what is apt to happen when new means and new methods are brought into the industrial picture. There does exist a tremendous body of information that could be used profitably. I should like to see us begin to get out into the field of general medicine and general surgery thumb-nail sketches of the available information. We go from what happens in our navy yards and our arsenals to what happens to the man when he is off the job. That is our concern because we are trying to prevent the loss of highly skilled labor. It is on the shoulders of the general practitioner that the great burden of protecting the nation from the loss of time of these skilled people must fall.

DR. IRVIN ABELL, Louisville, Ky.: Practical training in the plants has in the past produced and will continue to produce men highly competent in restricted fields. I have in mind the coal industry in my native state of Kentucky. Some of the men in charge of highly specialized units in the coal districts have had no training other than the practical training in the plant itself, and yet they have developed high competence. For the investigators, for the consultants, for the teachers, the more highly specialized program is certainly desirable.

Disability Evaluation in Silicosis

DR. J. L. BLAISDELL, Timmins, Ont.: By the use of tests developed by Dr. William S. McCann of the University of Rochester, N. Y., and his associates it is possible to evaluate the disability in human cases of silicosis, something that is impossible to do by radiology or physical examination. I am going to build up the discussion around two cases of hard rock miners who have been engaged in the industry for many years and have been subjected to finely particulated quartz dust. A person can have a tremendously advanced silicotic process without any physical disability. The first part of the test is the measurement of the total pulmonary capacity and its various components. The measurement of the reserve air, tidal air, complemental air is a simple procedure. The difficulty is in measuring the residual air. We use a modification of Christy's method, which is oxygen in dilution, without forced breathing. Of importance is not only the actual values of these subdivisions but their relation to one another. The measurement of the residual air is carried out in a special spirometer which will hold 6 or 7 liters. The reserve air and complemental air can also be measured in this spirometer and the vital capacity in the small Collins spirometer. The nitrogen determination is carried out in duplicate by the use of advanced manometric methods. It is possible by roentgen ray measurements of the chest and certain regression formulas to determine what the total capacity should be and what these various partitions should be, provided no disease exists in the lungs. Six foot plates are taken of the subject lying in the prone position, at maximum inspiration and at maximum expiration. These roentgenograms are measured. The area of the lung field is measured by means of a chronometer and recorded in square centimeters. We also measure the anteroposterior diameter of the chest at maximum inspiration. By multiplying the area of the lung field by the anteroposterior diameter of the chest, we arrive at a figure which is termed radiologic chest volume. From that we can calculate what the total pulmonary capacity should be and what the subdivisions of total capacity should be. We can predict from our roentgen ray measurements total capacity of the chest by this formula, the vital capacity by this formula, the residual air by this, and the midcapacity by this. These are the predicted values for total capacity and subdivisions. The whole point of this is in a comparison of the predicted values with the values actually observed or measured. The predicted values will be extremely close to the observed values in a healthy subject. When disease occurs there is a greater and greater discrepancy between the predicted and the observed values.

The second part of the test is a study of pulmonary ventilation before, during and after exercise. For this purpose we have constructed a brake bicycle ergometer by the use of which we can give the subject any predetermined amount of exercise. The subject is connected to a series of Douglas bags. The volume of air contained in each bag is measured in the spirometer. We investigated a number of young, healthy subjects by this test, first at 300 kilogrammeters per minute. We computed the total ventilation at 300 kilogrammeters of exercise for a five minute period, which is 89.4 liters, which is very low. People suffering from pulmonary disease usually ventilate a great deal more than that. The healthy person increases the ventilatory activity by increasing his tidal volume, by increasing his respiratory rate. The respiratory rate in healthy subjects under exercise remains comparatively unchanged or increases but slightly. The total ventilation was only 133 liters; 183 at exercise and rest. The record of a man aged 38 showed that the vital capacity over total capacity was 69 per cent, which is good, the normal being about 75. This gives a picture of a normal person. He expands

his chest 3 inches. At exercise his respiratory rate does not go over 20 per minute. It returns to normal quickly and his tidal volume is good. At 600 kilogrammeters of exercise we get a result that is similar. The remarkable thing about it is that this man has an advanced silicotic lesion, in all likelihood complicated by tuberculous infection, and yet shows no evidence of incapacity. He does not complain of inability to carry on his work.

A man aged 50 does not show radiographically nearly the extensive silicotic process of the first patient. As the disease advanced, his residual air has tremendously increased. His residual air is over 600 liters and is as great as his total predicted pulmonary capacity. His reserve air is greatly diminished and his vital capacity greatly diminished. His vital capacity makes up only 20 per cent of his total capacity. His residual air makes up almost 80 per cent of his total capacity, and his midcapacity about 85 per cent of his total capacity.

We have tested a large number of silicotic miners by these methods. They offer the best means of determining pulmonary disability in silicotic and in emphysematous patients.

DISCUSSION

DR. LEROY U. GARDNER, Saranac Lake, N. Y.: It is obvious, after seeing this presentation, that the degree of dysfunction of the lung is not necessarily proportional to the amount of anatomic change reflected on the roentgenogram. As a result of my visit to the Porcupine Clinic I came to the conclusion that inhalation of silica must disturb the pulmonary function and that the degree of dysfunction is not necessarily proportional to the roentgen ray changes; that there are possible toxic effects of silica which are manifested before silicotic nodulation makes its appearance, or at least before the shadows of the nodule become visible on roentgenogram.

DR. NOLAN KALTREIDER, Rochester, N. Y.: These tests serve to evaluate disability, and repeated measurements over a period of time indicate whether the patient's condition is improving, remaining stationary or getting worse. Determination of the pulmonary capacity indicates the underlying lesion. It shows whether fibrosis, emphysema or bronchial obstruction is the predominating lesion. The vital capacity serves as a measure of the patient's pulmonary reserve. The ratio of residual air in proportion to the total capacity indicates the amount of damage. When this value reaches a certain value (45 to 50 per cent) it shows that alveolar ventilation is inefficient and the oxygen saturation of the arterial blood is diminished. By exhaustive exercise or voluntary hyperventilation one can obtain the maximum volume that any one individual can breathe. Persons who are disabled have a reduced reserve. When an individual uses 60 per cent of his maximum minute ventilation he becomes dyspneic. Persons who are disabled do less work than normal persons before they reach this level. There is no single, simple measuring stick for testing pulmonary efficiency. It is necessary to employ several different types of functional tests to estimate disability. It is important for the investigator to be thoroughly familiar with them, and it is necessary for him to study a group of normal subjects comparable to the abnormal group. It requires considerable experience to interpret the results of the tests.

DR. LUDWIG TELEKY, Chicago: It was demonstrated that there is no parallelism between the roentgenograms and the disability or ability to work. The young man with the heart changes was able to work, and the old man, aged 51, was not able to work, because at his age the heart becomes weaker. It is the same with men who have changes in the lung. They have grown older and their hearts are weaker. We must always have on one side the picture of the lungs and, on the other, the strength of the heart. The strength of the heart is of the same importance in the question of disability as the picture of the lung and perhaps even more important.

PHILIP DRINKER: I should like to ask Dr. Blaisdell if the blood pressure or pulse rate will give any more information.

DR. BLAISDELL: It has been recorded in some cases.

DR. HENRY H. KESSLER, Newark, N. J.: Was the surface area utilized in modifying the various indexes? Was it just taken as a reading by itself?

DR. BLAISDELL: We utilized the surface area in certain computations that I did not show here. We do not find that correlation of various factors with surface area is of a great deal of assistance. In regard to the problem of separating the disability of the heart and the disability of the lung in these tests, we do not claim to do that. We are interested in the man's total disability, which, of course, is partly disability of the lung and also partly heart.

JANUARY 13—AFTERNOON

SESSION ON INJURIES OF THE HAND

DR. C. W. ROBERTS, Atlanta, Ga., in the Chair

The following papers, which appear in full in this issue of THE JOURNAL, were read as a symposium on "Injuries of the Hand":

DR. JAMES M. WINFIELD, Detroit: "Anatomic Diagnosis of Injuries of the Hand" (p. 1367).

DR. HARVEY S. ALLEN, Chicago: "Treatment of Superficial Hand Injuries and Burns" (p. 1370).

DR. MICHAEL L. MASON, Chicago: "Division of the Nerves and Tendons of the Hand" (p. 1375).

DR. HENRY C. MARBLE, Boston: "Importance of Purposeful Splinting Following Injuries of the Hand" (p. 1373).

DR. SUMNER L. KOCH, Chicago: "Prevention and Treatment of Hand Infections" (p. 1365).

DISCUSSION

DR. BRUNO GEBHARD, Cleveland: We have a new museum in Cleveland, the Cleveland Health Museum, sponsored by the Academy of Medicine and the Cleveland Health Council. We have devoted an entire room to man's hand. We have exhibits which show the hand having twenty-seven bones and thirty-eight muscles and how hands work. People can test the muscle power of their hands and the sensitiveness of the finger tips. There is a fluoroscope which shows the bones of the hands. We have many exhibits which may be called cultural interpretation of human biology. A third group has a more practical character. One of these is "How to Avoid Crushed Hands." This exhibit can be operated by the visitor and shows the right and wrong way of using a wrench, a chain and a rope. Another exhibit has the title "A Cut in the Finger—Get First Aid at Once, No Matter How Small the Injury," based on material of the National Safety Council and of the American Medical Association. Models of a realistic appearance show what happens if cuts on the hands are neglected. The necessity of wearing good gloves or hand leathers when handling rough or sharp objects is also emphasized. These exhibits, which cover an entire wall, have the title "You Have Ten Wage Earners—Keep Them Safe."

SESSION ON AVAILABILITY OF TRAINED INDUSTRIAL HEALTH PERSONNEL

DR. LEVERETT D. BRISTOL, New York, in the Chair

The Industrial Nurse

RUTH HOULTON, R.N., New York: The last count made by the U. S. Public Health Service in 1940 shows a total of 23,705 public health nurses in the United States. Of these, 3,271 are listed as industrial nurses. This represents an increase in public health nurses other than nurses in industry of 27.5 per cent, while the number of industrial nurses remained almost stationary.

The needed increase in public health nurses is estimated at about three times the present number. With concentration of men in army camps and expanding industry, housing and sanitation problems will increase and epidemics are likely to occur. Rehabilitation of men rejected in the draft because of physical defects or communicable disease (tuberculosis, syphilis) will become a responsibility of official and voluntary local health agencies. Moreover, it would be difficult to find qualified nurses if additional nurses were employed for health departments, schools and visiting nurse associations on a larger scale. The field of industry is likewise incompletely covered by nursing service.

According to the "Preliminary Survey of Industrial Hygiene Problems in the United States," reported for 1940 by the U. S. Public Health Service, only about one third of the industrial employees in this country now have either full time or part time industrial nursing service. Full time nursing service was provided for 33⅓ per cent of the employees and part time service for only 1.5 per cent. The gaps in nursing are chiefly in the smaller plants. In plants employing more than one hundred workers, 45.7 per cent have full time plant nurses while 1.9 per cent have part time; in plants employing fewer than one hundred workers only 1.1 per cent have either full time or part time nursing service.

In the majority of plants with fewer than five hundred employees, a full time nurse is often not possible. Here part time service needs to be arranged.

The visiting nurse associations number almost 1,200 and employ approximately 6,000 nurses.

Of the 1,029 of the 3,271 graduate nurses employed in industry, 75 per cent completed high school, but only 3.9 per cent (40) received one or more years of public health training. Only 7.3 per cent (75) have had any part of such education and 1.4 per cent (14) have completed work. It appears that only 11 per cent of industrial nurses now employed have taken any postgraduate work in public health subjects.

One part of the present problem of preparation of nurses for industrial service are additional opportunities for instruction in such subjects as industrial hygiene, preventive medicine, principles of public health nursing and educational methods. The other part is the need for preparing additional nurses who gradually should be employed to serve the two thirds of the industrial population which at present completely lack industrial nursing service.

Approved programs of study in public health nursing for graduate nurses are offered now by twenty-six colleges and universities in the United States. However, in few of them is much application made to industry.

The industrial nurse requires superior native equipment plus excellent preparation. To supplement preparation of nurses already in this field, part time courses could be arranged as evening courses on a regional basis by state departments of health. Industrial hygiene divisions in states in which these exist might cooperate with the nursing unit of the health department. Short intensive courses of three to four months would seem practicable for new nurses who have some background of experience or theory in the public health fields but no industrial experience. For the better handling of problems connected with nursing in industry, the national organization for public health nursing authorized this year the addition of a qualified industrial public health nurse to the national staff.

The Industrial Hygiene Engineer

DONALD E. CUMMINGS, B.S., Denver (reading in the absence of the author, MR. WARREN A. COOK, Chicago): As recently as the middle of the last decade only three states included industrial hygiene engineers in their health and labor departments. Now there are thirty-nine industrial hygiene units located in twenty-nine states and two territories. All these units include industrial hygiene engineers, the number of them depending more on the extent of development of the service in a given area than on the actual need for the work.

Only the largest industrial concerns have full time industrial hygiene engineers and chemists with laboratory and field equipment. In many more concerns the accident prevention department is charged with control of occupational disease hazards. In still others the engineering department has the responsibility to install operations so that the exposures to potentially injurious materials may be minimized. Where harmful gases or vapors are evolved in processes such as in viscose rayon manufacturing, the chemical laboratory may make routine checks of extent of exposures and report their findings to the management.

The system followed in some concerns where there are several separate departments or plants is to place an industrial hygiene service on call when, as and if the superintendent of that unit makes a formal request. This system has the advantage of encouraging the superintendent's cooperative interest in whatever preventive suggestions may be made as a result of the industrial hygienist's survey, but it has its disadvantage of insufficient contact with potential hazards, which can be more effectively handled by a more direct system with retention of the superintendent's cooperative spirit through demonstrated practical work on the part of the industrial hygienist.

A preferable method is one which is at present proving its value in industry. The industrial hygiene engineer is available to any of the plant superintendents on call. But his work does not begin and end there. He is kept continually informed by the purchasing department on potentially injurious materials coming into the plants. He knows where these materials go and what becomes of them. He has a record of potentially harmful processes being conducted with a schedule to check these at proper intervals. He makes general surveys at regular periods, since industrial operations are always in a state of change.

The American Industrial Hygiene Association was organized a year and a half ago with one of its objects the dissemination of information among industrial hygienists. This is being carried out through encouraging further attention to such publications as the *Journal of Industrial Hygiene and Toxicology* and *Industrial Medicine*, particularly the quarterly industrial hygiene sections of the latter periodical, through stimulation of local section meetings of the American Industrial Hygiene Association in the more important industrial centers and through its annual meeting, which is assuming the nature of a postgraduate institute of industrial hygiene. The National Conference of Governmental Industrial Hygienists, sponsored by the United States Public Health Service, has through its annual meetings been doing much in furthering the training of industrial hygiene engineers attached to federal, state and municipal departments. The Division of Industrial Hygiene of the National Institute of Health has presented brief courses in industrial hygiene over the last five years and directed in-service training in many of the state universities. A small number of universities are now providing training courses in this field, such as the Harvard School of Public Health and the University of Pennsylvania School of Medicine. The University of Pittsburgh School of Medicine and Johns Hopkins University have set up curriculums.

There is not a sufficient number of trained industrial hygiene engineers to cover adequately the present exposures to occupational disease hazards—estimated by the National Institute of Health, on the basis of actual surveys by state bureaus, to amount to one and one-half million persons exposed to hazards of carbon monoxide, three fourths of a million to lead and its compounds, more than one million persons to silica dust—to enumerate only a few of the most important.

Although present training facilities are recognized as inadequate to take care of the greatly increased need for industrial hygiene engineers for the present emergency, estimated at from two hundred to five hundred men, plans are now in progress for setting up short time training courses in a number of universities in the country.

The Safety Engineer

MR. R. L. FORNEY, Chicago: Are there shortages of personnel in these different divisions? What are the present facilities for training people for these kinds of jobs? What can be done to improve those training facilities? I am not able to cite figures as to the number of industrial safety engineers that would be anywhere near as precise as those of Miss Houlton. There are about two thousand industrial safety engineers in the engineering section of the National Safety Council, the American Society of Safety Engineers. What proportion that represents of the total number of persons in the United States who are doing industrial safety work, we don't really know. I would presume that there are at least two or three times that many who are spending all or a considerable share of their time in industrial safety. There is a definite lack of trained industrial safety personnel. Many companies, even in the group which wants to do a good job of safety, are trying to do it without adequate personnel. We maintain records of people available for industrial safety jobs. We ask industries to let us know if they are in need of that personnel, so that we have some measuring stick indicating the demand for jobs and the demand for men. There is a definite shortage of people

qualified to do industrial safety work in specific industries. To my knowledge no college or university has until the past year actually set up a course designed to lead to a degree in industrial safety engineering. Such a course has been established at the University of Alabama.

Industrial safety engineers have come up through a variety of ways. Some of them have come up through the plant. The training which has been done has been both formal and informal. Some of this training work, on the informal side, has been done through conferences and meetings. Some of those meetings have been held by the National Safety Council and a great many of them by our local affiliated Safety Councils here in Chicago, in Baltimore and in New York, and in some fifty other cities where there are such councils. At Northwestern, for about five years, rather complete courses have been given on traffic safety for police officers. At Harvard and Yale rather complete and formal courses are being given for traffic engineers to a greater extent than there have been formal courses leading to degrees and certificates in industrial safety.

The Medical Industrial Hygienist

DR. PAUL A. NEAL, Bethesda, Md.: According to Public Health Bulletin 259, Division of Industrial Hygiene, based on data from fifteen states, covering seventeen thousand plants, employing a million and a half workers, it was found that only 26 per cent of the workers had the services of a full time safety director. Hospital facilities were found to be available to only 15 per cent of the workers, and first aid rooms were provided for 51 per cent. Full time services of a physician were available to 15 per cent, while full time nursing services were provided for 33 per cent of the employees. The analysis revealed that, although accident records were kept on nearly all workers, sickness statistics were available for only 45 per cent of the employees. From this analysis it may be estimated that in this country slightly more than a million persons are engaged in occupations that potentially expose them to the inhalation of silica dust and one and one-half million persons to silicate dusts. Approximately eight hundred thousand persons are handling lead and its compounds, thirty-four thousand arsenic and its compounds and nearly thirty-three thousand mercury and its compounds. The highest exposure of all was in connection with the agents known to produce dermatitis.

If proper industrial hygiene practice is to be carried into factories engaged in key defense activities, several hundred medical industrial hygienists are needed. From the programs submitted to the U. S. Public Health Service the immediate needs for the states are twenty-eight additional trained medical industrial hygienists. The Division of Industrial Hygiene of the U. S. Public Health Service has made a request for funds whereby ten additional physicians may be engaged to take care of immediate needs. It is evident that this number will have to be increased in time. At present the Navy has employed more than one hundred and fifteen thousand civilians in its yards. It is obvious that additional trained medical industrial hygienists are required for this civilian personnel.

As of July 1, 1940 there were in the state units thirty-seven trained medical industrial hygienists, eighty-one engineers and thirty-seven chemists, and in the Public Health Service there were fifty-one trained industrial hygienists, of whom fifteen were physicians. In June 1940 the public Health Service requested the Council on Industrial Health of the American Medical Association to ascertain the number of medical industrial hygienists in the United States. The Council reported that there have been classified as medical industrial hygienists a total of approximately nine thousand physicians. The number of universities conducting industrial hygiene training is increasing and the type of training is improving. Regardless of these efforts, the number of trained medical industrial hygienists is not sufficient to supply the needs at the state level alone.

The Industrial Physician

DR. ROBERT T. LEGGE, Berkeley, Calif.: Modern industry requires the assistance of medicine to solve the complex problems of health and safety. The main purpose of industrial medicine is the control of occupational diseases and accidents by preventive and safety measures. Formerly an antipathy was entertained by the medical profession against the physician employed in industrial medicine, on the assumption that industrial medicine was a form of contract or insurance practice and because the worker was not free to choose his own physician. The industrial physician commands a knowledge and experience required for this form of preventive medicine which the private physician neither has nor shows much interest in acquiring.

Plans must be worked out for providing adequate medical service for small industries. Unless organized medicine leads the way, labor and society will demand political supervision. Ninety per cent of the manufacturing establishments employ fewer than five hundred employees and cannot employ a full time physician. The incidence of morbidity and traumatic disabilities, according to insurance carriers, is on the upcurve in small industries. Medical care is inadequate and more hazards prevail. Much thought has been given to the consideration of well trained public health nurses, on part or full time, to solve the problems.

In the organization of the new order of industrial medicine the Council of Industrial Health will submit a program of ethics, develop and advise on an educational program of training in our medical and postgraduate schools in industrial hygiene and medicine and prepare and recommend the content of such courses. It will standardize procedures necessary to promote industrial health by curative and preventive medicine. The rights of the private physician will be respected and his cooperation sought.

The physician of industry is a specialist in his field, a health consultant whose purpose is to promote efficiency, curtail absenteeism, minimize fatigue and improve the working by sanitation and safety measures. One of his particular functions is to locate hazards and to study the earliest symptoms. It is the right of the worker injured on the job to consult his own physician. In such cases the industrial physician should be invited in consultation and be allowed to follow the case.

The qualifications of an industrial physician include the following: In addition to a good training and experience in the general practice of medicine and surgery and good personal qualities, he should have a knowledge of the detection and control of communicable and occupational diseases and mental hygiene. He should possess a knowledge of administration, which includes industrial relations, economic responsibility, factory laws and records, compensation and methods of rehabilitation of handicapped persons and of plant sanitation, accident prevention and safety, industrial physiology, welfare relations with outside agencies and private physicians.

A shortage exists in trained industrial physicians. The specialty offers a regular income, no general expenses, opportunities for making contributions to scientific medicine and a satisfying humanitarian employment.

DISCUSSION

MISS JOANNA JOHNSON, R.N., Milwaukee: I would like to ask Dr. Legge how he would suggest that the interest of the smaller manufacturers be stimulated in encouraging them to use the services of nurses for industry.

DR. ROBERT T. LEGGE, Berkeley, Calif.: I would suggest that the nurses have a registry, the same as clinical nurses. I should then suggest that they see their chambers of commerce or the medical society in the community and organize a service to these smaller plants. Such an organization would profit by the safety and the industrial hygiene work that they would do and the first aid they would render. At the same time it would increase the private physicians' income by referring cases of industrial diseases and accidents to these physicians. In an organization of that kind in the beginning, if it warranted, with a number of plants, they could supply the industrial engineer and the safety engineer. Under those circumstances that would be the beginning for the small plants in having an adequate nursing service.

THEODORE HATCH, M.S., Philadelphia: We have heard a great deal about the need for trained industrial hygienists in connection with our national defense program. The educational facilities available at the present time are distinctly limited. The problem of introducing into the engineering curriculum additional work is the same as it is in the medical schools. The courses are already overloaded. Nevertheless

there exists a real need. Most industries can afford and do have a full time safety engineer. With the added engineering knowledge involved in this industrial hygiene, effective service should be built up. In the development of the engineering curriculum in industrial hygiene the greatest advances can be made if the problems of safety engineering and of occupational disease control, of ventilation and of lighting be combined in one course of training for the undergraduate engineer. In an emergency we haven't time to do a lot of research work, and in the present state of the development of industrial hygiene there are a great many problems to be solved, the solution of which is known at the present time and no further research is required. I would emphasize the need for bringing to the attention of the manufacturers of equipment used in industry, for incorporating into their machinery, safety protection and health protection on the basis of what is known at the present time. That is of greater importance than the emergency training of a lot of new people.

MR. AMBROSE B. KELLY, Chicago: In our approach to this problem of meeting an emergency we are doing a great deal of long range planning to provide men for an emergency that will be over before the first of those men is on the ground. We haven't emphasized as much as we must the need for getting men immediately who may not be as well trained as we would like them to be. In many cases we are setting our requirements so high that it will be impossible in the immediate future, however desirable it is to have that as an objective, to provide men who meet those qualifications. We are starting late on a program which should have been launched ten years ago. These refresher courses for the men who are now in private practice, these symposiums, inadequate as they are, these short courses which Mr. Forney talked about, are the things that must have the right of way in the present emergency.

DR. LEONARD GREENBURG, New York: I was in the Public Health Service in 1918, when we went through the same procedure of training people for a war emergency. The only persons I remember of the early training groups who are now in industrial hygiene work are Dr. Clarence Selby and Emory Hayhurst. That means a large number of men were trained and dropped out of the field between 1918 and 1921 or 1922, probably about 1920 or 1921. We are going through that same procedure now. We are going to try to train a large number of men who are probably not deeply interested in the field and probably not primarily qualified to continue in the field. After we spend a great deal of time and energy, they are going to drop out. I don't mean to say that we are not faced with an emergency or that we shouldn't try to adopt some scheme of rapid training of personnel. All this effort that we put into new personnel should be put into personnel whom we have examined and studied.

DR. ALBERT S. GRAY, Hartford, Conn.: We can reach somewhere between these two ideas, pick out good men and give them a short training course. A number are going to continue to be interested in this type of work, and they are going to develop. Such a course has been suggested at Yale University.

DR. CLIFFORD KUH, New Haven, Conn.: To answer Miss Johnson's question I would say that in Connecticut we are, in cooperation with the Industrial Health Committee of the Manufacturers' Association of Connecticut, which was organized at the suggestion of the industrial health committee of the state medical society, submitting a proposal to every member of the Manufacturers' Association, nine hundred members in all, representing 95 per cent of employees in Connecticut manufacturing industries. This proposal outlines the scope, function and organization of industrial medical and nursing service, and we offer to help individually every manufacturer who wishes to inaugurate an industrial medical service or to expand an existing one. We have a New England Industrial Nurses' Association from which we can draw nursing personnel. Also Dr. Gray's Bureau of Occupational Diseases of the State Department of Health has already added an industrial nurse to its staff, an entirely new departure for a state department of health. The function of that nurse will be to stimulate the employment of industrial nurses through the state and to improve nursing service where it exists. We have started a course of fourteen weekly lectures in industrial medicine for both doctors and nurses, and we believe we shall get an immediate response as a result of our proposal.

MISS RUTH HOULTON, New York: There are few nurses that are not now in industry who know a lot about industrial nursing and those nurses are all busy. Most of us seemed to feel that in an emergency the best way to prepare more nurses quickly would be to take well selected nurses and give them short, intensive courses of preparation, if we had three months to do that. I suggested that the best people to select would be nurses already with some experience in public health nursing. If we do not have three months, certainly this plan of Connecticut, mentioned by Dr. Kuh, would be helpful. We have nurses interested in industrial nursing, nurses who have had some experience in public health work, and if they can be trained on the job through in-service lectures of that kind, and through some sort of nurse supervision while they are working, it should help to solve the problem. Besides Connecticut there are at least two states, Indiana and Michigan, that have appointed consultants in industrial nursing in their nursing unit of the state health department, and I would venture to say that within the next year every health department, where there is any industry within the state, will be looking for that sort of person.

MR. DONALD E. CUMMINGS, Denver: I believe that more important at the present time than formal instruction is practical plant instruction in this subject. I feel that, despite all the formal instruction that is offered, the thing that solves the actual problem is a little practical experience with the problem itself. I would like to offer the suggestion that more attention be given to practical instruction in the plants themselves.

MR. R. L. FORNEY, Chicago: The National Safety Council receives scores of letters from men in industry saying "How can I prepare myself to do safety work?" I have a stock answer which consists of four things: First, I tell the man to participate in the safety work in his plants, find out how it is being done and learn what he can from the safety director of that plant. Second, read about safety. Third, attend safety meetings and conferences which may be held in his city or his community. Fourth, and the hardest to get, formal class instruction in the school. That is the last thing, and these other things can be done much more readily. I think we all agree that a better safety engineer or better industrial hygiene engineer could be made if we have longer training, but certainly people engaged in safety never have felt that long, formal training was necessary to make people competent to do industrial safety work.

DR. PAUL A. NEAL, Bethesda, Md.: What are the needs from the standpoint of the federal government? Right now construction jobs incident to large industries are being placed in isolated communities, covering general health, general sanitation, and so on. That is our acute need, and that is what we are focusing our attention on right now. From the training standpoint we are doing exactly as Dr. Bartle suggested from the medical standpoint. We are using the units we have. In mining one needs one sort of man and in the chemical industry another. We are not starting out with no facilities at all available in industry itself. We know that our greatest task is in the small plant, and that is where we are centering our efforts right now. The National Defense Council has ordered—not requested—the division, through the Surgeon General, to get busy. We have always waited for a request. This is not a time for enforcing: Industry is asking now. It is not from the old angle. It is being approached as fast as possible right now. It is not as blue as it looks to us when we look at the mass of things. What specific industries are there outside of isolated communities? Obviously, arsenals and munitions plants. Seventeen thousand cases of trinitrotoluene exploded and four hundred and seventy-five persons died. Doesn't that speak for itself? Then in ship yards, from the welding standpoint alone, there is an obvious job. With the changes in welding, the other control procedures don't work.

DR. ROBERT T. LEGGE, Berkeley, Calif.: For the last five or six years we have been training at the University of California nurses who are taking the National Organization for Public Health nursing course. They are also taking certain students who have been studying industrial hygiene at the university. In the last year we have had two semesters in which we have taken graduate nurses, experienced women and experienced nurses who have been taking courses for this emergency which we believed was coming on. The Council on Industrial Health discussed this problem yesterday. We believe there will arise in the near future certain training centers in different parts of the United States for the purpose of giving short courses to private physicians who are on call and others who wish to go into industry. There will be refresher courses. Large industrial plants that have medical directors and a corps of industrial physicians will also develop practical instructions. We are endeavoring at the present to seek properly qualified persons with practical experience to teach these people this type of course. The Council on Industrial Health has been busy the last year and a half in endeavoring to develop some training in education. We have developed a working syllabus for instructing doctors and nurses in industrial hygiene and medicine. The next question will be "If these doctors take this training will they have a job?" That we cannot at the present time promise. But if the emergency is here—industrial medicine is on the march, I am satisfied—I feel we can absorb these trained persons in industry.

CHAIRMAN BRISTOL: We have been discussing the question of availability of trained industrial health personnel from the standpoint of leadership, the doctor, the nurse, the safety engineer, the industrial hygiene engineer, the medical industrial hygienist. How about the workers? How about the matter of industrial health personnel among the rank and file of the workers? After all, national defense will depend largely on the physical and mental health of the individual workers themselves. In our own individual industry, the Bell Telephone System in the United States, we have given one hundred and seventy-five thousand women employees a six to ten lesson health course over the last fifteen years. It is purely a voluntary effort. It is taken on the employees' own time, after hours. That, in itself, would seem to indicate the helpfulness of such a health course for employees. In this emergency we have got to do something more along that line, not only to get our leaders, but to stimulate on-the-job health and medical preparedness through various short courses in order to build an adequate individual defense, which means, in sum total, an adequate national defense.

JANUARY 14—MORNING

DR. HENRY H. KESSLER, Newark, N. J., in the Chair

THE HANDICAPPED

The following papers, on "The Handicapped," appear in full in this issue:

DR. D. L. LYNCH, Boston (read by DR. GEORGE F. WILKINS, Boston): "Employment of the Physically Handicapped" (p. 1380).

DR. EDWARD J. STIEGLITZ, Bethesda, Md.: "Aging as a Problem of Industrial Health" (p. 1383).

DISCUSSION

DR. ANTON J. CARLSON, Chicago: The National Research Council has been concerned with the problem of aging for some years, and the U. S. Public Health Service has recently taken up the work in a small way and Dr. Stieglitz is in charge of that research. There must be much greater weight, both in our profession as well as in industry and in the country as a whole, given to the problems involved here. We have taken the view, largely erroneously, that useful work and responsibility should not begin until the boy or the girl is 18 to 21 and that effective work and responsibility should cease somewhere at 55, 60 or 65 years. Both assumptions are biologically and medically erroneous. Responsible work, responsibility, should progress gradually during childhood, as it does usually in the most primitive activity of men in agriculture. It is one of the great cruelties to man and woman to announce to them that they are through at 55, 60, 65 or 70. We are concerned in the National Research Council and in the little division we started in the U. S. Public Health Service with arriving at a greater understanding of the inevitable and the accidental processes of aging. We are thinking in the National Research Council of inviting to a conference some time this year, for studying fundamentals that are going to be with us long after the present war fury is over, a conference of representatives of the scientific profession in industry as well as those representing the financial side in industry, to figure out what we should do first on this problem of useful, effective, productive and psychologically preventive employment in later years. Dr. Stieglitz is greatly interested in this, and you who face this problem in industry should be greatly interested. You may soon get letters from the National Research Council, some of you who are more distinctly concerned with it in industry, and I hope you will realize that what we are thinking of is really a forward looking step in the life and health of our country.

CHAIRMAN KESSLER: The person who is physically handicapped lives not only with his disability but also with the sum total of those active functions and structures that still remain. In other words, there are a great many safety factors in the human economy, and there are a great many safety factors in the social economy. So that the stark realism of Darwin's dictum, when he said that evolution takes place as the result of survival of the fittest, must be altered to read that the survival is not of the fittest but of the luckiest, because social selection modifies the stark realism of natural selection.

DR. W. A. SAWYER, Rochester, N. Y.: A method of measuring and evaluating physiologic age is most important. The industrial physician has to rely on experience in his industry and clinical judgment in making such decisions. Health supervision is effective only if applicant and periodic examinations are followed by corrective prophylactic measures. No examination of a new worker can begin to have its full value if what is found initially is not checked subsequently. In this way impairments can be corrected, trends studied and early incapacity prevented. Another essential safeguard in prolonging health and productive capacity is the day to day consultation service. There should be periodic job analysis for the older groups. The fatigue factors of each job must be evaluated. Reassignment or readjustment rather than retraining, as suggested by Dr. Stieglitz, will be the outcome of such reexaminations. The selection of the work, the worker's capabilities, the effect on individual and group morale are regarded as vital factors which must be given adequate consideration. There is a unanimity of opinion on certain basic factors, which may be summarized as follows: 1. Older workers are adaptable to changes and new routines, and the so-called set mind is not entirely characteristic of aging. 2. The importance of preparing the individual mentally to accept the retraining necessary to continue him in employment must be recognized. 3. It is desirable to preserve the morale of the worker by encouraging the thought in his mind that he is, and will continue to be, a part of the organization and thereby maintain his self respect and that of those with whom he associates.

ACUTE RESPIRATORY DISEASE IN INDUSTRY

The following papers, which appear in full in this issue, were read as a symposium on "Acute Respiratory Disease in Industry":

DR. ANTHONY J. LANZA, New York: "Incidence and Costs of Acute Respiratory Disease in Industry" (p. 1342).

DR. CAREY P. MCCORD, Detroit: "Respiratory Disease and Air Conditioning" (p. 1360).

DR. GEORGE M. PIERSOL, Philadelphia: "The Role of the Physician in Industry in the Control of Acute Respiratory Disease" (p. 1339).

JANUARY 14—AFTERNOON

DR. HARVEY BARTLE, Philadelphia, in the Chair

Conservation of Eyesight in Industry

CHAIRMAN BARTLE: Protection of the vision of the worker is of prime importance and may be viewed from different points of view: the evaluation of vision of prospective employees; proper supervision and advice concerning eye ailments, including eye trauma; refractive errors and underlying diseases affecting the eyes secondarily, and protective measures and appliances: Recently, in a single industry, the records showed that among thirty thousand preemployment examinations in one year there were 12 per cent of temporary or permanent disapprovals. Twenty-five per cent of these were basically due to visual defects. Industrial demands will be anticipated if interest in vision conservation now shown to the newborn and in the early months of life is extended to the first two decades of life. Workers should have the benefit of all practical measures to prevent deleterious effects from poor lighting, improper desks and work benches. Errors of refraction should be routinely sought and proper advice and corrective prescription be furnished. Fumes and gases of an irritant character should be eliminated. The use of goggles is becoming a recognized practice in well conducted plants. Goggles must be worn in certain shop areas without exception. Rather severe penalties for infraction of this rule are enforced. Such regulations yield excellent results. The widely established practice of periodic examination of workers should discover incipient diseases which may be secondarily related to errors in vision. The proper treatment of these diseases will do much to protect against serious changes in the eye.

INDUSTRIAL OPHTHALMOLOGY

The following papers, which appear in full in this issue, were read as a symposium on "Industrial Ophthalmology":

DR. LEONARD GREENBURG, New York: "Economic Importance of Visual Disability in Industry" (p. 1357).

DRS. SYDNEY WALKER JR. and HANFORD L. AUTEN, Chicago: "Essentials of First Aid and Later Management of Industrial Eye Injuries" (p. 1356).

DR. ARTHUR M. CULLER, Dayton, Ohio: "Detection and Control of Defective Vision in Industry" (p. 1349).

DRS. THOMAS D. ALLEN, Chicago, and HENRY F. CARMAN, San Francisco (read by DR. HERMAN P. DAVIDSON, Chicago): "Protective Equipment for Eyes in Industry" (p. 1343).

DISCUSSION

DR. HEDWIG S. KUHN, Hammond, Ind.: I can endorse Dr. Culler's statement that "industrial efficiency depends almost directly on visual efficiency." To place employees on jobs within their visual capacity is the cornerstone in this entire field. It at once eliminates the dangerously insecure interpretation of Dr. Gould's, as to eyestrain and his conclusions that specific occupations cause eyestrain. May I caution against making careless statements relative to a job causing eyestrain. You'll start a major and needless attack of hysterics in the industrial relations departments. Great possibilities for special close work lie in the field of occupational lenses, such as we are now experimenting with in work at 8 inches. It is essential to record, for every employee, acuity, corrected and uncorrected, stereopsis, color vision and muscle balance and, for special industries, an added battery of close vision tests. Careful groupings of occupations with their specific visual requirements will produce a much more healthful situation. The standard of ocular requirements for various occupations which Dr. Culler has set up is not at all in agreement with my experience. Working in plants totaling over seventy-five thousand employees, I believe, first, that it is important to do the full battery of tests on all employees hired or, if one is conducting a survey, the full data on all employees already employed. Second, the job classifications need to be drawn up from an on the spot evaluation of the requirements of a job. In one mill of over ten thousand men and over one hundred and twenty-five different types of work, I made the rounds and saw in action every type of job existing. One's understanding quickly becomes real rather than empirical after such an experience.

ABSTRACT OF MINUTES OF MEETINGS OF BOARD OF TRUSTEES

A two day session of the Board of Trustees was held at the headquarters of the Association, Thursday and Friday, February 20 and 21, at which careful consideration was given to the business of the Association. Space permits of only a brief abstract of these deliberations.

SPECIAL ISSUE OF ARCHIVES OF PATHOLOGY IN HONOR OF DR. EUGENE LINDSAY OPIE

Authorization was given for the publication of a special issue of the *Archives of Pathology* in honor of Dr. Eugene Lindsay Opie.

APPOINTMENTS

The following appointments were made to editorial boards of special journals and to councils and committees (unless otherwise stated the appointee succeeds himself):

American Journal of Diseases of Children, Dr. H. F. Helmholz. *Archives of Pathology*, Dr. G. H. Whipple. *Archives of Neurology and Psychiatry*, Dr. Bernard J. Alpers; Dr. John Whitehorn of St. Louis to fill the unexpired term of Dr. H. Douglas Singer (deceased), and Dr. Tracy J. Putnam as Chief Editor. *Archives of Otolaryngology*, Dr. George M. Coates, and Dr. J. Mackenzie Brown of Los Angeles as an additional member. *Archives of Surgery*, Dr. Alton Ochsner. *Archives of Internal Medicine*, Dr. Arthur Bloomfield. *Archives of Ophthalmology*, Dr. William Zentmayer, and Dr. David G. Cogan of Boston, to succeed Dr. J. H. Waite (resigned). *Archives of Dermatology and Syphilology*, Dr. Herbert Rattner and Dr. Harold N. Cole. Committee on Scientific Research, Dr. Ludvig Hektoen. Committee for the Protection of Medical Research, Dr. Lewis H. Weed and Dr. Walter B. Cannon. Council on Industrial Health, Dr. Raymond Hussey of Baltimore to fill unexpired term of Dr. Allen D. Lazenby (deceased) and Prof. Philip Drinker of Boston to fill unexpired term of Dr. Earl D. Osborne (resigned). Council on Pharmacy and Chemistry, Dr. William C. Rose, Dr. E. L. Sevringhaus and Dr. Torald Sollmann. At an earlier meeting of the Board, Dr. Soma Weiss was elected to succeed Dr. Ernest E. Irons (resigned). Council on Physical Therapy, Dr. A. U. Desjardins, Dr. H. B. Williams and Dr. Frank H. Krusen. Council on Foods and Nutrition, Dr. Howard B. Lewis, Dr. J. S. McLester and Dr. Russell M. Wilder. Committee on American Health Resorts, Dr. Frank H. Krusen. National Research Council, Division of Medical Sciences, Dr. Roger I. Lee of Boston to succeed Dr. Russell Haden.

4-H CLUB COMMITTEE (NATIONAL COMMITTEE FOR BOYS' AND GIRLS' CLUB WORK)

Dr. W. W. Bauer, Director of the Bureau of Health Education, was authorized to continue to represent the Association on the 4-H Club Committee.

NATIONAL CONFERENCE FOR COOPERATION IN SCHOOL HEALTH EDUCATION

Dr. W. W. Bauer was also authorized to continue to represent the Association at the National Conference for Cooperation in School Health Education.

REPRESENTATIVES TO MEETING OF CANADIAN MEDICAL ASSOCIATION

Dr. W. F. Braasch of Rochester, Minn., and Dr. Thomas S. Cullen of Baltimore were elected to represent the Association at the annual meeting of the Canadian Medical Association to be held in Winnipeg in July.

APPROPRIATIONS

Appropriations were made for the conduct of the work of the various departments in the headquarters office and of committees, for necessary conferences and for scientific and therapeutic research.

ESTABLISHMENT OF RESERVES TO COVER DEPRECIATION

In accordance with a suggestion from the auditors, it was decided to establish reserves to cover depreciation in furniture, equipment, buildings and other material.

COOPERATION BETWEEN PHARMACY AND MEDICINE

The Board voted to request the Council on Pharmacy and Chemistry to sponsor a conference on medical pharmaceutic relationships, the purpose of which shall be to outline ways and means by which some program for the better development of more definite relations and better cooperation between pharmacy and medicine might be established.

DR. E. E. IRONS A MEMBER OF EXECUTIVE COMMITTEE

Dr. Ernest E. Irons, who at the September meeting of the Board was elected a Trustee and Secretary of the Board pro tem until the annual session of the Association in Cleveland next June, was elected to membership on the Executive Committee.

DEATH OF DR. LEECH

A resolution prepared by the Secretary of the Board concerning the death of Dr. Paul Nicholas Leech, Secretary of the Council on Pharmacy and Chemistry and Director of the Division of Foods, Drugs and Physical Therapy, was adopted and instructions were given to spread it on the minutes of the Board.

RADIO BROADCASTS

"Doctors at Work" is the title of the sixth annual series of dramatized radio programs being presented by the American Medical Association and the National Broadcasting Company.

The program is scheduled for 10:30 p. m. eastern standard time (9:30 central, 8:30 mountain, 7:30 Pacific time) over the Blue network, other N. B. C. stations and Canadian stations.

The programs will dramatize what modern medicine offers the individual in the way of opportunities for better health and the more successful treatment of disease. Incidental to this main theme the programs will explain the features that characterize the different fields of modern medicine and its specialties.

Descriptive posters for local distribution may be had gratis from the Bureau of Health Education.

Tickets are available for each broadcast. Address the Bureau of Health Education, American Medical Association, 535 North Dearborn Street, Chicago. Tickets are free, but a stamped self-addressed envelop should accompany requests.

The next three programs to be broadcast, together with their dates and titles, are as follows:

April 2. Invisible Invaders.
April 9. The Life Ray.
April 16. Health on the Wing.

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Changes in Status.—Hearings have been held by the Senate Committee on Military Affairs on the Murray bill, S. 783, providing for the deferment of medical students, interns and resident physicians from induction into service under the Selective Training and Service Act of 1940. H. R. 2112 has passed the House and Senate, authorizing the Secretary of the Navy to appoint for temporary service such acting assistant surgeons as the exigencies of the service may require. Under existing law not more than one hundred acting assistant surgeons may be appointed for temporary service.

Bills Introduced.—S. 1121, introduced by Senator Gillette, Iowa, proposes to create a Division of Water Pollution Control in the United States Public Health Service. H. R. 3968, introduced by Representative Houston, Kansas, proposes to impose additional duties on the United States Public Health Service in connection with the investigation, treatment and control of tuberculosis, including the provision of facilities for sanatorium and other care for persons with tuberculosis and for the purpose of making studies, investigations and demonstrations to develop more effective measures of prevention, treatment and control of the disease. H. R. 3993, introduced by Representative Magnuson, Washington, proposes a federal appropriation of $1,500,000 to construct a four hundred bed general and surgical veterans' hospital in Seattle. H. R. 4000, introduced by Representative Houston, Kansas, proposes to provide for the common defense in relation to the sale of alcoholic liquors to members of the land and naval forces of the United States and to provide for the suppression of vice in the vicinity of military camps and naval establishments. H. R. 4056, introduced by Representative McCormack, Massachusetts, and H. R. 4039, introduced by Representative Curtis, Nebraska, propose to establish in the Department of Labor a Bureau for the Welfare of the Deaf with authority (1) to collect, tabulate and make public statistics pertaining to the deaf, their employment and their welfare; (2) to ascertain what fields of employment are available to the deaf and to endeavor to create such new fields of employment; (3) to acquaint employers in private industry with the special capabilities of the deaf and to encourage the employment of the deaf on an equal basis with the hearing; (4) to cooperate with the heads of the various departments of the Government and with the Civil Service Commission and states and political subdivisions thereof in expanding the opportunity for the employment of the deaf in public service, and (5) to cooperate with any public or private agency in the vocational rehabilitation of the deaf.

DISTRICT OF COLUMBIA

Bill Introduced.—H. R. 4057, introduced by Representative Randolph, West Virginia, proposes to authorize the Federal Security Administrator to accept on behalf of the United States gifts made unconditionally by will or otherwise for the improvement, maintenance or operation of the Freedmen's Hospital in the District of Columbia.

STATE MEDICAL LEGISLATION

Colorado

Bill Passed.—S. 640 passed the senate, March 15, proposing that after its enactment no additional persons may be licensed to practice midwifery in the state. The bill proposes, however, that persons licensed to practice midwifery prior to the enactment of the bill may continue to exercise all rights and privileges permitted by such license under the existing law.

Connecticut

Bills Introduced.—H. 1816 and S. 2575 propose that each state employe who during the performance of his duties comes in contact with persons afflicted with any contagious disease shall be given a physical examination semiannually by the state. If such person is found infected with any such disease, the state is to pay for all necessary hospital and medical expenses resulting from the disease, and the employee is to be paid one half of his normal salary.

Delaware

Bills Introduced.—S. 227, to amend the workmen's compensation act, proposes to add the following occupational diseases to the list of occupational diseases compensable under the Act: industrial dermatitis, ivy poisoning, oak poisoning and silicosis. H. 340 proposes that one member of the state board of health shall be a licensed osteopath.

Illinois

Bills Introduced.—S. 176 proposes to enact a separate electrolysis practice act and to authorize the Department of Registration and Education to appoint a committee of electrologists to examine persons applying for certificates of registration as registered electrologists. The bill provides that "The practice

of electrolysis shall herein be defined as the removal of superfluous hair by means and use of an electrically charged needle." H. 315 proposes to enact a separate chiropractic practice act and to require the Department of Registration and Education to appoint an independent examining board of three chiropractors to examine applicants for licenses to practice chiropractic. The bill proposes to define chiropractic as "the science of palpating and adjusting the articulations of the human spinal column, correcting interference with nerve transmission and expression, to restore health, without the use of drugs or surgery." H. 354 proposes to enact a separate physiotherapy practice act and to authorize the Department of Registration and Education to appoint an examing committee of physiotherapists to examine applicants for licenses to practice physiotherapy. The bill defines the practice of physiotherapy as "the method, art or science of treating the human body for hygienic or remedial purposes by the following methods: massage and manipulations with the hands or with any other physiotherapy modality, and the use of such adjuncts as light, heat, air, water, diet, gymnastics and electricity." An applicant for such a license must be a graduate of an accredited high school, or possess an equivalent education, and must be a graduate of an accredited school teaching massage and physiotherapy, covering an instruction period of not less than three years and consisting of at least nine months in a single calendar year, or a total of not less than three thousand hours, including courses in general anatomy, physiology, hygiene and sanitation massage, physical gymnastics, hydro-therapy, mechano-therapy, thermo-therapy, actino-therapy and electro-therapy, dietetics, blood pressure technic, taking of pulse and respiration, and the use of the clinical thermometer.

Iowa

Bills Introduced.—H. 511 proposes, in effect, to condition attendance at any public or private school on the presentation of the certificate of a licensed physician that the pupil either (1) has been vaccinated against smallpox and immunized against diphtheria or (2) has previously had smallpox and diphtheria or (3) is an unfit subject for vaccination and immunization. No provision of the law, however, is to be construed to require vaccination or immunization or medical treatment with respect to pupils who, or whose parents, are members of a church the tenets of which are opposed to medical treatment. H. 519 proposes to enact what it cites as the Uniform Iowa Drug and Cosmetic Act to regulate the manufacture, sale, distribution and advertising of foods, drugs, cosmetics and therapeutic devices.

Maryland

Bill Introduced.—H. 591 proposes to enact what it cites as the Uniform Maryland Food, Drug and Cosmetic Act to regulate the manufacture, distribution and advertising of foods, drugs, cosmetics and therapeutic devices.

Michigan

Bills Introduced.—S. 201 proposes to require all records, medical and hospital, of a patient to be open to examination by the patient's attorney. An attorney, however, is not to be liable in any manner for a failure to disclose fully the substance of the records to his client when disclosure would be against the best interests of the client. S. 206, to amend the workmen's compensation act, proposes that reasonable and necessary medical, surgical and hospital services and medicines shall be furnished by the employer or his insurer for one year, if the commission so orders, to an employee disabled by an occupational disease.

Massachusetts

Bills Introduced.—H. 1618 proposes that no person shall be required to submit to vaccination or inoculation against his or her will as a condition precedent to (1) admission to or attendance at any public school or other institution or (2) the exercise of any right, performance of any duty or enjoyment of any privilege. The bill also proposes to subject a person who vaccinates or inoculates a child, or adult under guardianship, without the written consent of a parent or guardian to a fine of $100 or imprisonment for a year, or both. H. 1923 proposes to require a board of health to make monthly inspections of persons distributing foodstuffs within their city or town. H. 2007 proposes to establish under the department of public health a bureau for the care of inebriates.

Minnesota

Bill Introduced.—H. 903, to amend the laws relating to the practice of massage, proposes to create an independent board of massage examiners to examine and license applicants for licenses to practice massage. Under the present law masseurs are examined and licensed by the board of medical examiners.

Missouri

Bills Introduced.—H. 234, to amend the law prohibiting the planting, cultivating, harvesting, preparation, selling and distribution of marihuana, proposes to extend such prohibition also to "coca leaves, opium, locoweed, barbital, phenobarbital." The bill proposes, however, that it shall not be unlawful for any licensed pharmacist to have in his possession any of the said drugs or derivatives of said plants for sale on the written prescription of a physician, osteopathic surgeon, dentist or veterinary surgeon licensed to practice in the state. H. 288, to amend the cosmetology practice act, proposes to permit licensed cosmetologists, among other things, to remove "superfluous hair by means other than electricity about the body of any person." H. 295, to amend the medical practice act, proposes to empower the state board of health to require the attendance of witnesses and the production of such books, records and papers as it may desire at any hearing or any matter concerning which the board has authority to investigate. The bill further proposes to authorize the board and accused physicians to employ counsel. The secretary of the board is also to have power to administer oaths to witnesses.

New Hampshire

Bill Introduced.—H. 366 proposes to enact what purports to be the Uniform Narcotic Drug Act.

New Jersey

Bill Introduced.—A. 353 proposes to authorize the state board of medical examiners until Nov. 30, 1943, to grant the degree of doctor of medicine and surgery to any person who is licensed to practice medicine and surgery.

New York

Bills Introduced.—S. 1145 proposes to appropriate $30,000 for the suppression of poliomyelitis. The bill proposes to require every local board of health and every health officer to exercise proper and vigilant medical inspection of all persons 21 years of age or over infected with poliomyelitis and to provide at the remedial stage of the disease suitable surgical, medical or therapeutic treatment or hospital care and necessary appliances and devices. S. 1392 and A. 1837, to amend those provisions of the medical practice act relating to the practice of physiotherapy, propose that any person holding a registered license to practice physiotherapy, who satisfies the board of regents that he has received sufficient instruction and training, may be granted the right to use the physiotherapy modalities of actinotherapy, hydrotherapy, mechanotherapy, thermotherapy and electrotherapy, exclusive of the x-ray. A. 1797 proposes to prohibit a person having a communicable or contagious disease transmissible through food from working or being permitted to work in a factory wherein a food product is manufactured. Whenever required by a medical inspector of the department of health, a person working in such factory must submit to a physical examination and, if found to be suffering from such a disease or condition, shall not be deprived of his employment but shall be given sick leave until he has been cured. A. 1893 proposes to authorize the state department of health to render free of charge to all inhabitants of the state "all medical, surgical, dental, nursing care and treatment and all other services and facilities known to science and designed or adapted for use in all cases of sickness, accidents and childbirth . . . maintenance in hospitals, the furnishing and supplying without cost of medicines, drugs" and all other necessary equipment and supplies. The bill proposes so to increase the staff of the department as to include all registered physicians, dentists, pharmacists, technicians, research and laboratory workers and all other persons practicing allied professions who elect to serve and to

pay them salaries in accordance with the schedule fixed in the bill. The department is to be authorized to exercise exclusive control over all public hospitals and is to have complete supervisory powers over all private hospitals in the staff, officers and employees thereof.

Ohio

Bills Introduced.—H. 329, to amend those provisions of the medical practice act relating to the practice of osteopathy, proposes to strike the provision in the present law permitting the state medical board, on the recommendation of the Ohio osteopathic society, to appoint the persons who constitute the state osteopathic examining committee and in its place to substitute a provision authorizing the governor with the advice and consent of the senate, to appoint a state osteopathic examining committee. The bill also proposes that two members of the state osteopathic examining committee shall be designated by the governor as members of the state medical board. H. 442 proposes that the body of a person whose death occurs in the state shall not be removed to any autopsy room or to any place where embalming is done, nor shall any mutilation of any kind be permitted, until the body has been subjected to scientific life tests to determine whether or not death is complete. The nature and character of such life tests are to be ascertained from year to year by the head of the state public health service from the tests advocated by the American Medical Association and National Selected Morticians. H. 582 proposes to prohibit the maintenance and operation of a boarding home for the aged and physically infirm without a license from the department of public welfare. H. 459 proposes to require every physician who attends any woman, pregnant with child for conditions relating to pregnancy, during gestation or at delivery to take or cause to be taken a sample of the woman's blood at the time of the first examination or within fifteen days thereafter and to submit the sample to an approved laboratory for a standard serologic test for syphilis.

Pennsylvania

Bill Introduced.—H. 759 proposes to prohibit any hospital receiving aid from the commonwealth from denying any licensed doctor of medicine practicing in the community served by the hospital the use of the facilities of the hospital for the care, maintenance, treatment and attendance of his patients or for the performance by such doctor of medicine in such hospital by the use of its facilities thereof of surgical operations on patients.

Rhode Island

Bills Introduced.—S. 138 proposes to require any physician or any hospital having under his or its care any patient suffering from cancer, carcinoma, lymphoma, sarcoma, leukemia or other malignant growth to report the facts within seven days after first ascertaining such intelligence to the state department of public health. H. 818 proposes to establish the Special Health Insurance Fund Commission, which is to undertake an extensive study of sickness and ill health in the state, the lack of adequate resources by individual workers to meet unforeseen illnesses, and other pertinent matters. The commission is to study all pending federal legislation so that, if Congress should initiate or pass any federal health insurance laws that will require appropriate action by the state, the commission will be in a position to recommend to the general assembly such action as it shall deem expedient for the medical care of such workers.

Texas

Bills Introduced.—H. 701 proposes to authorize the establishment and operation of nonprofit medical and surgical care plans on a regular, periodic prepayment basis. H. 720, to amend the workmen's compensation act, proposes, among other things, to permit an injured employee to employ any physician or surgeon and to secure necessary hospital services of his own choice. S. 306 proposes to enact a separate act authorizing the licensing of individuals to practice "Dieto-therapy" by an examining board to consist of "three of the teachers of Dieto-therapy, in the state chartered Texas School of Dieto-therapy, chosen among themselves." The bill provides: "For the purposes of this act, Dieto-therapy is the practice of restoring health to humans by the means of trained guidance in the proper use of: air, in controlled breathing to some extent; water, used in proper moderation internally and externally; common foods, as are sold in any well stocked grocery, used in compatible combinations, with no patented or processed foods being required, sunshine, taken in exposures to aid metabolism, yet supervised to prevent deep burns; exercise to aid circulation, yet not to the point of exhaustion of nervous energy; rest, for recuperative purposes, yet never to the point of stagnation; and training in mental control, recognizing that the mind and the body are unalterably linked together. The teaching of how to combine these seven natural qualities for the health-aid of any human shall constitute, and is, the teachings of Dieto-therapy. The graduate who teaches this method of health-aid to any person shall be entitled to the title of Dietopath, and may charge for his teachings or services." S. 340 proposes to enact a separate chiropractic practice act and to create an independent board of chiropractic examiners to examine and license applicants for licenses to practice chiropractic. Such a licentiate, apparently, is to be authorized to "undertake to locate and adjust the cause of interference with the normal transmission of nervous energy of the spinal column and adjacent tissues, without the use of drugs or surgery." A licensed chiropractor is not to prescribe medicine or to perform surgery but is to be permitted to render first aid, sign health cards and death certificates and to enter hospitals within the state for the purpose of adjusting their patients or inmates thereof.

Vermont

Bills Introduced.—S. 70 proposes to condition the issuance of a license to marry on the presentation by each party to the proposed marriage of a physician's certificate that the party has been given such examination as may be necessary for the discovery of syphilis, including a standard serologic test, made not more than thirty days prior to the date of the application for license to marry, and that in the opinion of the physician the party is either not infected with syphilis or if so infected is not in a stage of that disease which is or may become communicable to the marital partner. H. 217, to amend the workmen's compensation act, proposes to extend the period during which the employer must furnish an injured employee necessary medical services and supplies to the first thirty days of disability. The present law requires the employer to furnish such services only during the first fourteen days of disability. H. 263 proposes that "A licensed physician or surgeon shall not be permitted to testify in court to any communication of a confidential character, which he may have acquired in attending any patient in a professional capacity, and which was necessary for him to service such patient professionally, except (1) in trials for felony, where such disclosure relates directly to the fact or immediate circumstances of felony, (2) in all lunacy inquiries, (3) in all actions against the physician or surgeon for mal-practice, or (4) with the express consent of the patient, or in case of his death or disability, of his personal representative or other person authorized to sue for personal injury, or of the beneficiary of an insurance policy on his life, health or other physical condition."

Wisconsin

Bills Introduced.—S. 235, to amend the workmen's compensation acts, proposes that "Any employee submitting himself to examination at the request of his employer or the commission shall be furnished with a detailed report in writing of the examining physician's findings and conclusion, which shall include a history of the case, diagnosis, and opinion of the physician. An exact copy of such report shall be furnished to the employee or his attorney within ten days after the examination." S. 258 proposes so to amend the medical practice act as to authorize the issuance of licenses to practice naturopathy and to provide for naturopathic representation on the state board of medical examiners. A. 501 proposes to create an interim committee on the cost of medical care. The proposed committee is to investigate the general subject of cost of medical care and the ways and means of lightening the burden thereof and is to report its findings and recommendations to the 1943 session of the legislature or, if prepared to do so, at any intervening special session that may be called. With this report the committee is to submit drafts of bills to carry out its recommendations.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education and public health.)

ALABAMA

State Medical Meeting in Mobile.—The Medical Association of the State of Alabama will hold its annual session at the Battle House, Mobile, April 15-17, under the presidency of Dr. Samuel A. Gordon, Marion, and with the Mobile County Medical Society as host. Out of state speakers will include:

Dr. Luther L. Terry, Galveston, Texas, The Problem of Brucellosis.
Dr. Samuel Buford Word, Camp Shelby, Miss., Medical Problems Initiated by the Mobilization of Man Power.
Dr. Champ Lyons, Boston, Clinical Objectives in Chemotherapy.
Dr. Andrew B. Rivers, Rochester, Minn., Recognition of the Complications of Peptic Ulcer and Their Medical Treatment.
Dr. Joseph C. Birdsall, Philadelphia, Diagnosis, Pathology and Treatment of Obstructions of the Urinary Tract.

The Jerome Cochran Lecture will be delivered Wednesday morning by Dr. Marye Y. Dabney, Birmingham, on "The Story of Breast Cancer." Many Alabama physicians will participate in the program.

CALIFORNIA

The George Dock Lecture.—Dr. Elizabeth Mason Hohl, Los Angeles, will give the second George Dock lecture before the Barlow Society for the History of Medicine, Los Angeles, March 31. Her subject will be "The Practice of Medicine in the Eleventh Century." The lecture will mark Dr. Dock's eighty-first birthday. Last year the lectureship was created by the Barlow society in honor of Dr. Dock, who gave the first lecture on "A Dictionary of Medical Biography." Since 1931 Dr. Dock has been honorary professor of medicine at the University of Southern California School of Medicine, Los Angeles.

National Youth Program.—Newspapers reported recently that $102,000 will be expended within six months to benefit the health of the twenty thousand unemployed youths in California. Lorne W. Bell, executive secretary of the Y. M. C. A., Los Angeles, has been selected as state health supervisor and Dr. Wilton L. Halverson, health officer of Pasadena, has been named consultant. Their work will be coordinated with that of the state department of health, the state medical association and the health departments of all the major cities in the state. The campaign for health improvement will include health examinations, preventive and reparative care and dental work. Recommendations for diet, recreation and types of employment for each youth will be given.

Dr. Evans Makes Good Will Trip.—Dr. Herbert M. Evans, Herzstein professor of biology and director of the Institute of Experimental Biology, University of California, Berkeley, recently left on a good will tour around South America as an envoy of Secretary of State Cordell Hull and the university. The tour is being financed principally by the government of Uruguay and the Guggenheim Foundation, and the main objective of the trip was the second Pan American Congress of Endocrinology at Montevideo, Uruguay, March 5-8. Dr. Evans will lecture at universities in Brazil, Argentina, Chile, Peru and Mexico. Dr. Evans graduated at Johns Hopkins University School of Medicine, Baltimore, in 1908. He was a member of the staff of his alma mater from 1908 to 1915, when he joined the University of California Medical School as professor of anatomy. He was awarded the John Scott Medal by the city of Philadelphia for his work on vitamin E in 1928.

COLORADO

Society News.—At a meeting of the Pueblo County Medical Society, February 4, action was taken to abrogate all local dues and pay state nonresident dues out of the treasury for all members called to military service during the present emergency. A symposium on nephritis was presented by Drs. Carl W. Maynard, Pueblo, and Thad P. Sears, Denver, at this meeting.——The Medical Society of the City and County of Denver devoted its February 4 meeting to a symposium on tuberculous tracheobronchitis; the speakers were Drs. James J. Waring, Paul R. Weeks, Herman I. Laff and Frederick R. Harper. All are from Denver.

CONNECTICUT

Library Given to Neuropsychiatric Institute.—Dr. Smith Ely Jelliffe, New York, has given his library of fifteen thousand volumes and more than twenty-five thousand reprints on nervous and mental diseases to the Neuro-Psychiatric Institute of Hartford Retreat, Hartford. Included are some rare works dating back to the fifteenth century, as well as many important psychiatric monographs from the time of Pinel and Esquirol to the present. According to the New York *Times*, the reprints include contributions from practically every civilized country. All concerning a specific subject or disease entity have been combined in one group so that a research worker can trace more easily the development of treatment and historical aspects. Arrangements are under way at the institute to make the library available not only to the medical and research staffs of the institute but to qualified workers throughout the country.

ILLINOIS

Case of Smallpox.—The first case of smallpox in Cook County in nearly three years was reported in a man, aged 57, according to the newspapers March 14. He was placed under quarantine in his home. The patient's son, aged 11, was removed from school in Park Ridge. Vaccination was ordered for all children in the school.

New Director of State Medical Board.—Mr. Frank G. Thompson has been appointed director of the Illinois Department of Registration and Education, Springfield, succeeding John J. Halihan. Mr. Thompson is a native of Golconda and for the past thirty-two years has been a resident of Mount Vernon, where he has been practicing law. He was state's attorney of Jefferson County from 1918 to 1924 and was a member of the state legislature from his district in 1931-1932. He is 55 years of age. The State Central Committee sponsored a banquet in his honor on his induction into office and presented him with a watch.

Chicago

Dr. Brennemann Goes to California.—Dr. Joseph Brennemann has been appointed professor of pediatrics in the University of Southern California School of Medicine, Los Angeles, and superintendent of the Children's Hospital of Los Angeles, according to an announcement from the dean. After serving three years beyond the retirement age, Dr. Brennemann resigned, January 1, as chief of staff of the Children's Memorial Hospital, a position he had occupied since 1921. Dr. Brennemann had also been professor of pediatrics at the University of Chicago, the School of Medicine, since 1921.

New Dean at Loyola.—Dr. Francis J. Braceland, associate clinical professor of psychiatry, Woman's Medical College of Pennsylvania, Philadelphia, has been appointed dean of Loyola University School of Medicine, effective in June. He succeeds Dr. Louis D. Moorhead, who has held the position since 1918 and who resigned to devote his time to private practice. Dr. Braceland graduated at Jefferson Medical College, Philadelphia in 1930. He was a Rockefeller fellow in psychiatry at Burgholzlie Anstalt, Zurich, Switzerland, and National Hospital, Queens Square, London, during 1935 and 1936. He has been clinical director of the Pennsylvania Hospital for Mental and Nervous Diseases since 1937 and at present is assistant professor of psychiatry in the Graduate School of Medicine, University of Pennsylvania. Dr. Moorhead graduated at Rush Medical College in 1917 and in the following year became dean and associate professor of surgery at Loyola and in 1928 professor and head of the department of surgery.

IOWA

State's Program to Supply Human Serum.—In a release, February 24, Dr. Eugene C. Wagner, director of the serum center of the state department of health, announced that it will soon be possible to maintain a supply of pooled normal blood serum for immediate distribution to any point in the state. Donor clinics are scheduled at monthly intervals to obtain blood from which the serum is made. Since the state department's program was launched in December 1940 twenty-six hospitals, district, county and city health services throughout the state have received serum shipped in special containers. In addition, rush orders have been supplied to physicians requesting serum for emergency use.

LOUISIANA

Officers of Special Societies.—Dr. Edmund M. Connely has been elected president of the New Orleans Society of Neurology and Psychiatry; Dr. Lewis A. Golden is the secretary-treasurer.——Dr. William H. Perkins, New Orleans, was reelected president of the Tuberculosis and Public Health Association of Louisiana at its annual meeting January 29. Shreveport was selected as the place for the 1942 meeting.

Courses in Obstetrics and Pediatrics.—The state department of health is planning a series of refresher courses in obstetrics and pediatrics at the Louisiana State University Medical Center and Tulane University of Louisiana School of Medicine, New Orleans, May 19-31. Ten physicians will offer the course in pediatrics at Tulane and eight physicians the one in obstetrics at Louisiana State. Applications to take a course should be directed to the Supervisor, Maternal and Child Health Services, 223 Civil Courts Building, New Orleans, on or before April 15. They will be reviewed by a committee from the state medical society, who will select the physicians to take the courses. Social security funds to finance the project have been received from the U. S. Children's Bureau. Other courses were under consideration by the state department of health to be held throughout Louisiana during March, April and May.

MARYLAND

Society News.—The Baltimore City Medical Society was addressed, March 21, by Drs. Charles W. Wainwright and Thomas McP. Brown on "The Use of Gold in the Treatment of Rheumatoid Arthritis" and George E. Bennett, "Surgical Treatment of Rheumatoid Arthritis." The society was addressed, March 7, by Drs. Louis Hamman on "Pain in Relationship to Pulmonary Disease," and John T. King, "Cardiac Pain."——The Osler Historical Club was addressed, March 11, by Col. Harold W. Jones, medical corps, U. S. Army, on "The Medicofilm Service of the Army Medical Library," and Dr. Joseph E. Raycroft, Princeton, N. J., "Old Wine in New Bottles."——The orthopedic section of the Medical and Chirurgical Faculty of Maryland met jointly with the Philadelphia Orthopedic Club, March 24, at Baltimore; the speakers included Dr. Allen F. Voshell, Baltimore, on "Anatomical Relations and Functions of the Tibial Collateral Ligament."

MASSACHUSETTS

Dr. Ladd Appointed to New Professorship.—Dr. William E. Ladd, clinical professor of surgery at Harvard Medical School, Boston, has been named the first incumbent of the William E. Ladd professorship of surgery. The new chair was recently endowed by a group of friends of Dr. Ladd and named in recognition of his contributions to the field of surgery in children. A native of Milton, Dr. Ladd graduated at Harvard in 1906. He has been clinical professor at his alma mater since 1931.

New England Health Institute.—The eleventh New England Health Institute will be held at the Hotel Statler, Boston, April 2-4. "Public Health in National Defense" will be its theme. The program has been divided into the following sections: administration, cancer and chronic diseases, communicable diseases, crippled children, environmental sanitation, food and drugs, genitoinfectious diseases, health education, laboratory, maternal and child hygiene, nutrition, occupational hygiene, public health nursing, school health, tuberculosis and vital statistics. Many nationally prominent speakers are included in the preliminary announcement.

MICHIGAN

Courses on Industrial Medicine and Surgery.—Designed for the general practitioner, a course of ten weekly lectures on industrial medicine and surgery will begin, April 3, under the sponsorship of the Continuation School of Medicine of the Wayne County Medical Society, Detroit. Sessions will be held at the Wayne University College of Medicine.

Society News.—Dr. Stanley P. Reimann, Philadelphia, addressed a meeting of the Wayne County Medical Society, Detroit, March 3, on "Normal Intracellular Constituents in Relation to Growth."——William J. Burns, Lansing, executive secretary, Michigan State Medical Society, discussed recent trends in legislation before the Highland Park Physicians' Club, March 6.——The Detroit Ophthalmological Society was addressed, March 5, by Dr. Benjamin Rones, Washington, D. C., on "Senile Changes in the Eyes."

Community Preparedness Program.—A special committee on medical mobilization of the Wayne County Medical Society, Detroit, has conducted a survey on industry, police, county sheriff, fire, transportation, supplies and bibliography as a preliminary program of community preparedness. The committee believes that a program for the whole community entails such extensive equipment, personnel and experience that an organization such as the Wayne County Medical Society does not have the necessary authority to undertake the development of the complete setup. It recommends, however, that the society continue its general study and formulate suggestions for presentation to the proper authorities for their consideration and to organize in detail the medical, hospital and first aid portion of the program. In compiling the report, information was obtained from other large industrial centers to secure experience elsewhere on community disaster programs. The committee consulted all local plants with war orders, and the list is being expanded to include every concern of fifty or more employees. The committee worked through eleven special divisions, each concerned with acquiring data on a specific problem. It will continue with the organization of a functional program in its special field, coordinating its efforts as part of the general program undertaken in the area by the American Red Cross.

NEW JERSEY

Hospital News.—The cornerstone for a new wing which will add a capacity of one hundred beds at Cooper Hospital, Camden, was laid, February 18. The addition was made possible by a gift of $320,000 from the Campbell Soup Company, Camden, in memory of the late John Thompson Dorrance, president and one of the founders of the company. A recent donation of $30,000 for equipment was announced at the ceremony.

Society News.—Dr. Jay Arthur Myers, Minneapolis, addressed the Hudson County Medical Society, Jersey City, March 4, on "The General Practitioner's Part in the Program of the Prevention and Control of Tuberculosis."——A symposium on "Carcinoma of the Female Genital Organs" was presented before the Union County Medical Society, Elizabeth, March 12, by Drs. Arthur R. Casilli, William O. Wuester, Elizabeth, and James G. Boyes, Plainfield.——Dr. Richard A. Kern, Philadelphia, addressed the Cumberland County Medical Society, Bridgeton, March 11, on allergy.

NEW YORK

Scarlet Fever Traced to Milk.—Thirty cases of scarlet fever in thirteen families in and near the hamlet of Pulteney in Steuben County recently were traced to the use of raw milk from one dealer in all but two instances. The first eight cases appeared between Dec. 22, 1940 and January 15, and 22 cases in the next nine days. The earliest case occurred on one of three farms that supplied the suspected dealer, and a cow was found to have acute mastitis. Milk from the infected cow showed hemolytic streptococci of the group commonly encountered in human infection, and the same organisms were found in throat cultures from some of the patients. Pasteurization of the suspected milk supply was begun January 23 and no more cases occurred after January 25, *Health News* reports. The infected cow was slaughtered.

New York City

Seventh Harvey Lecture.—Dr. Leo Loeb, professor emeritus of pathology and research professor of pathology, Washington University School of Medicine, St. Louis, will deliver the seventh Harvey Society Lecture of the current series at the New York Academy of Medicine, April 10. Dr. Loeb will speak on "Hormones and the Process of Aging."

Measles Prevalent.—The New York City Department of Health reported, March 13, that 1,401 new cases of measles had been reported for March 12, about a third more than the number for the previous day, 1,049. The incidence has been rising steadily since January 1. The total number of cases for January and February was 20,152, more than there were in 1939 and 1940 combined. There were only six deaths among the cases in the first two months of the year, it was said.

Graduate Course in Ophthalmology.—A three year full time graduate course in ophthalmology is announced by New York University College of Medicine, to be given under the direction of Dr. Conrad Berens, recently appointed associate professor of ophthalmology. The first year of nine months will include didactic, practical, seminar and laboratory courses,

and the last two years comprise an internship during which the student will be required to investigate some problem and report on his research. For further information address the Office of the Assistant Dean, College of Medicine, New York University, 477 First Avenue.

Lectures on the Steroid Hormones.—Mount Sinai Hospital is presenting a series of lectures on the steroid hormones. The first was delivered, March 7, by Harry Sobotka, Ph.D., chemist to the hospital, on "The Biological Role of Steroids in Clinical Medicine." Lectures in the series include:

Dr. George W. Thorn, Baltimore, Desoxycorticosterone, March 14.
Dr. Siegfried J. Thannhauser, Boston, Diseases of Cholesterol Metabolism, March 24.
Dr. Robert T. Frank, New York, The Estrogens, April 7.
Carl R. Moore, Ph.D., Chicago, Testosterone, April 28.
Dr. Edwin C. Hamblen, Durham, N. C., Some Clinical Observations on the Metabolism and Utilization of Progesterones: Their Application to Gynecic Practice, April 30.
Dr. Cornelius P. Rhoads, New York, The Carcinogens, May 12.

Graduate Courses.—The New York Post-Graduate Medical School has announced the following graduate courses that are being given during the spring:

Recent advances in pediatrics, March 17-22, under the direction of Dr. Adolph G. G. De Sanctis.
Seminar in pediatrics, one month beginning April 1, under Dr. De Sanctis.
Clinical pediatrics, one month course offered in May and June, under Dr. De Sanctis.
Neurology in general practice, one month beginning April 1, under Dr. George A. Blakeslee.
Seminar in internal medicine, two months beginning April 1, under Dr. Irving S. Wright.
Arthritis and rheumatic diseases, April 14-18, under Dr. Edward F. Hartung.
Seminar in gynecology, one, two or three months beginning April 1, under Dr. Walter T. Dannreuther.
Allergy, April 14 to May 2, under Dr. William C. Spain.

Hospital News.—Mr. Harold M. Salkind, recently superintendent of the Beth Abraham Home for Incurables, has been appointed executive director of the Beth David Hospital. He succeeds Mr. Samuel G. Ascher, who resigned to enter active service with the Medical Administrative Section, U. S. Army Medical Corps, at the Army and Navy Hospital, Hot Springs National Park, Ark.——A new roentgen ray department was recently presented to Knickerbocker Hospital in memory of the late Mrs. Bernard M. Baruch by her daughters, Miss Belle W. Baruch and Mrs. Renee B. Samstag. The new department, which occupies one wing on the second floor of the hospital, was dedicated on January 16. Dr. Samuel A. Brown, former dean of New York University College of Medicine, made the presentation on behalf of the family.

Medicolegal Meetings.—The second of a series of four joint meetings of the Association of the Bar of the City of New York and the Medical Society of the County of New York was held, January 28, with the following speakers: Drs. Henry W. Cave on "Role of Trauma in the Activation and Aggravation of Cancer, Hernia and Ulcers"; Arthur H. Terry Jr., "Effect of Trauma with Relation to Tuberculosis, Pneumonia, Pernicious Anemia and Related Conditions," and Alan DeForest Smith, "Injuries to the Lower Back in Relation to Compensation and Accident Cases." At the third meeting, February 4, the speakers were Drs. Arthur C. DeGraff on "Disability in Diseases of the Heart and Circulatory System"; Arthur M. Master, "Effort, Trauma, Occupation and Compensation," and John Kirkland Clark, Esq., "Legal Aspects of Disability in Diseases of the Heart and Circulatory System."

OHIO

Changes in Health Officers.—Dr. Marshall J. Thomas, Cambridge, has been appointed health commissioner of Guernsey County on a part time basis to succed the late Dr. David L. Cowden. —— Dr. Robert L. Lawwill, Seaman, has been appointed health commissioner of the Adams-Brown counties health district, succeeding Dr. Otto K. Engelke, West Union, resigned.——Dr. George Winthrop Bassow, Woodstock, N. Y., has succeeded Dr. John P. Young, Empire, as health commissioner of Jefferson County. Dr. Young had served for many years.

Society News.—Dr. Murray M. Copeland, Baltimore, will address the Mahoning County Medical Society, Youngstown, April 30, on "Practical Treatment of Tumors and Diseases of the Mammary Gland."——Dr. Edward A. Strecker, Philadelphia, addressed the Academy of Medicine of Cleveland, February 21, on "Dangers of Crowd Mindedness, a Psychiatric Prospective of World Chaos." —— Dr. Donald R. McKay, Buffalo, addressed the Stark County Medical Society, Canton, February 20, on "Diagnosis and Treatment of Common Diseases of the Chest."

Northern Tri-State Meeting.—The sixty-eighth annual meeting of the Northern Tri-State Medical Association (Indiana, Michigan and Ohio) will be held in Tiffin, April 8, at the Tiffin Theater. The speakers will be:

Dr. Frederick F. Yonkman, Detroit, Emergency Drugs.
Dr. Carl D. Camp, Ann Arbor, The Neurological Examination and What It Shows.
Dr. Albert D. Ruedemann, Cleveland, The Eye in General Medicine.
Dr. Ernest Perry McCullagh, Cleveland, Recent Advances in Endocrinology.
Dr. Roy W. Scott, Cleveland, The Bedside Diagnosis of Certain Cardiovascular Diseases.
Dr. George M. Curtis, Columbus, Recent Developments in Thoracic Surgery.
Dr. Willis D. Gatch, Indianapolis, Abdominal Pain.
Dr. William N. Wishard Jr., Indianapolis, Urinary Antiseptics from the Viewpoint of General Practice.

Dr. Elliott P. Joslin, Boston, will be the guest speaker at a banquet at the Shawhan Hotel on "The Application of Recent Physiological Studies of the Treatment of Diabetes Mellitus."

OREGON

Society News.—Dr. Edwin E. Osgood, Portland, addressed the Marion-Polk Counties Medical Society in January on "Practical Aspects of Chemotherapy." The name of the society was changed at this meeting from Polk-Yamhill-Marion Counties Medical Society. Yamhill County has a separate organization.——Dr. Cyrus C. Sturgis, Ann Arbor, Mich., addressed the Umatilla County Medical Society, Pendleton, recently on "Anemias of Pregnancy."——Members of the staff of Portland Sanitarium and Hospital presented the program of the Multnomah County Medical Society, February 19, in Portland, on "Causes of Death in the Newborn." The speakers were Drs. Clarence Roderick Blatchford, Warren C. Hunter and Samuel G. Henricke. Prof. Henrik Dam of the Biochemical Institute, Copenhagen, Denmark, was the speaker March 5 on "The Present State of Knowledge of Vitamin K," under the auspices of the Portland Academy of Medicine.

PENNSYLVANIA

Society News.—Dr. Harrison F. Flippin, Philadelphia, addressed the Northampton County Medical Society at the Northampton Country Club near Easton, February 21, on "Chemotherapy in Pneumonia." —— Dr. Theodore R. Fetter, Philadelphia, addressed the Lycoming County Medical Society, Williamsport, February 14, on "Urogenital Infections with Particular Emphasis on Their Treatment with the Drugs of the Sulfonamide Series."

Philadelphia

Gift for Research and Treatment.—Jefferson Hospital was recently awarded $330,522.76 from the estate of the late Mrs. Emily Barton Pendleton to be used for treatment of cancer and tuberculosis and for research into their causes, according to the *Pennsylvania Medical Journal*. Mrs. Pendleton was a member of a family that has given Philadelphia two eminent surgeons, John and William Barton, several medical scholarships and medical research funds, the *Journal* says.

Annual Health Institute.—The Woman's Auxiliary of the Philadelphia County Medical Society will present its eleventh annual health institute, April 8, at the society's auditorium on "Medicine and the National Crisis." The speakers will include:

Major James B. Mason, U. S. Army, The Doctor in the Army.
Capt. John B. Kaufman, U. S. Navy, The Doctor in the Navy.
Dr. Malcolm W. Miller, Are You Allergic?
Mrs. Maxwell J. Lick, Erie, president of the state auxiliary, History of Health Organizations.
Dr. Leon H. Collins Jr., The Magic of the New Medicine.
Dr. Edward A. Strecker, Mind Over Matter.
Dr. Edward L. Bortz, Selecting Your Doctor.

Doctors' Hospital Opened.—The Doctors' Hospital, a nonprofit institution organized by Philadelphia physicians to use a building formerly owned by the University of Pennsylvania and once known as the Orthopedic Hospital, was opened, January 11. Dr. Arthur P. Keegan is chairman of the board of directors, and other members are Drs. George M. Dorrance, John M. Cruice, John G. Manley, Eugene C. Murphy, John W. Bransfield, David N. Kremer, Daniel J. McCarthy, William H. Spencer and Yasohichi Frank Yoshida. The new hospital will be staffed entirely by practicing physicians and surgeons and graduate nurses. It has two hundred beds, three operating rooms and three delivery rooms.

Pittsburgh

Memorial Lecture.—Dr. Virgil H. Moon, Philadelphia, delivered the R. W. Stewart Memorial Lecture of the Pittsburgh Academy of Medicine, March 11. His subject was "The Origins, Early Recognition and Management of Shock."

Society News.—Speakers before the Pittsburgh Surgical Society, March 7, included Drs. Harold A. Kipp, on "Surgical Treatment of Lung Abscess and Chronic Bronchiectasis" and Samuel M. Dupertuis, "Problems in Plastic Surgery About the Face."——At a meeting of the Allegheny County Medical Society, March 25, the speakers included Drs. Yale D. Koskoff on "Clinical Importance of Electroencephalography"; Sidney A. Rosenburg and Norman M. Wall, "Treatment of Diffuse Peritonitis by Direct Peritoneal Introduction of Sulfanilamide."

SOUTH CAROLINA

State Medical Meeting at Greenville.—The annual meeting of the South Carolina Medical Association will be held in Greenville, April 16-17, at the Poinsett Hotel. Dr. Frank H. Lahey, Boston, President-Elect of the American Medical Association, will deliver an address Wednesday morning, April 16, when the president of the state association, Dr. William L. Pressly, Due West, will give his official address. Dr. A. Benson Cannon, New York, will lead a round table discussion on "Common Skin Diseases"; Dr. Oscar L. Miller, Charlotte, N. C., one on "Management of the Commoner Fractures for the General Practitioner." Dr. David T. Smith, Durham, N. C., will speak Thursday on "Subacute and Chronic Nontuberculous Lung Infections." South Carolina physicians on the program include:

Dr. Olin B. Chamberlain, Charleston, Arthritis of the Cervical Vertebrae.
Drs. LeGrand Guerry and George T. McCutchen, Columbia, A Composite Operation for the Radical Cure of Inguinal Hernia.
Dr. Ernest B. Saye, Spartanburg, Sudden Death from Natural Causes.
Dr. John F. Rainey, Anderson, Hypertension: Experimental and Clinical Observations.
Dr. Sol B. McLendon, Columbia, Diagnostic and Therapeutic Value of the Lumbar Puncture and Cerebrospinal Fluid Examination.
Dr. Frank P. Coleman, Columbia, Surgical Treatment of Bronchiectasis.
Dr. William H. Prioleau, Charleston, Complications Connected with the Treatment of Varicose Veins.
Dr. Jesse W. Kitchin, Liberty, Some Considerations of Constipation.
Dr. William Weston Jr., Columbia, The National Physicians' Committee.
Dr. George R. Dawson Jr., Charleston, Low Back Pain and Sciatica Caused by Faulty Mechanics at the Lumbosacral Area.

VIRGINIA

Society News.—Dr. Eugene M. Landis, Charlottesville, addressed the Albemarle County Medical Society, Charlottesville, February 6, on "Practical Aspects of Kidney Function Tests."——Speakers at a meeting of the Augusta County Medical Association in Waynesboro, February 5, were Drs. Marshall J. Payne, Staunton, on "Metastases in Malignant Diseases"; John H. Guss, Churchville, "Recent Studies on Hypertension" and Byrd S. Leavell, Charlottesville, "Anemias."

State Neuropsychiatric Meeting.—Dr. William Gayle Crutchfield, Richmond, was elected president of the Neuropsychiatric Society of Virginia at its winter meeting in Richmond, January 29; Dr. Howard R. Masters, Richmond, was made vice president and Dr. Edward H. Williams, Richmond, was reelected secretary. The speakers were Drs. James Asa Shield, Richmond, on "Yeast Infection of the Nervous System"; Ernest H. Alderman, Richmond, "Mental Deterioration in the Psychoses"; George B. Arnold, Colony, "Problem of the Psychopathic Personality in the Feebleminded," and Patrick H. Drewry Jr., Richmond, "Suicidal Attempts as Seen in a General Hospital."

University Hospital Addition.—A new $375,000 addition to the University of Virginia Hospital, Charlottesville, was opened recently. The five story building provides for new administrative quarters, six operating rooms, treatment rooms, more space for medical research and a capacity of one hundred and seventy-one beds. This gives the hospital a total of five hundred beds, with three hundred and seventy-five for teaching purposes. On the ground floor are new quarters for the orthopedic outpatient department, additional quarters for the department of urology and storage space. On the first floor are administrative offices and two surgical wards; on the second the operating rooms and two surgical wards; on the third are two medical wards, a clinical laboratory and the office of the department of internal medicine; on the fourth are quarters and wards for the departments of ophthalmology and otolaryngology.

WASHINGTON

Surgical Meeting.—Dr. Idys Mims Gage, associate professor of surgery, Tulane University of Louisiana School of Medicine, New Orleans, was the guest at the annual meeting of the Puget Sound Surgical Society in Seattle, March 15. Clinics were held during the day at the King County Hospital and the annual banquet at the Rainier Club in the evening. Dr. Gage's subject was "Surgery of Acute Cholecystitis."

Physician Honored.—The Spokane County Medical Society gave a banquet at the Desert Hotel, Spokane, February 17, in honor of Dr. Erich T. Richter in celebration of his fiftieth anniversary in the practice of medicine. Dr. Richter, now 75 years old, graduated from the Julius-Maximilians-Universität Medizinische Fakultät, Würzburg, Germany, in 1890 and was licensed to practice in Germany in 1891. He came to Washington in 1893. He is a former president of the Spokane County Medical Society.

GENERAL

Society News.—At the recent meeting of the Western Surgical Association in Topeka, Kan., Dr. Albert H. Montgomery, Chicago, was chosen president and Dr. Arthur R. Metz, Chicago, was made secretary. The next meeting will be in St. Paul, December 5-6.——At the third meeting of the National Conference of Governmental Industrial Hygienists, in Washington, D. C., February 18, Dr. Carl A. Nau, Austin, Texas, was elected chairman; Mr. M. F. Trice, Raleigh, N. C., vice chairman, and John J. Bloomfield, U. S. Public Health Service, secretary.——The annual meeting of the American Red Cross will be held in Washington, D. C., April 21-24.

Physicians' Art Association.—A prize of $100 is being offered by the president of the American Physicians' Art Association, Dr. Edward E. Woldman, Cleveland, for the best painting depicting some particular epoch in medical history. If the painting is acceptable to the Cleveland Academy of Medicine, $100 or more will be paid to purchase it. The work should be about 30 by 40 inches in size, so that it may be used in a panel measuring 30 by 44 inches in the academy's building. The exhibit of the American Physicians' Art Association will be held during the annual session of the American Medical Association in Cleveland. Instructions will be announced later concerning material to be exhibited. All art work is to be sent direct to Cleveland and will be returned to members after the exhibition.

Association of Anatomists.—The American Association of Anatomists will hold its fifty-seventh annual session at the University of Chicago, Chicago, April 9-11, as a part of the celebration of the fiftieth anniversary of the university. The Hotel Shoreland will be the headquarters. Philip E. Smith, Ph.D., New York, is president. The program includes the following speakers:

Oliver P. Jones, Ph.D., Buffalo, The Degree of Macrocytosis in Blood from Newborn Rats as Related to the Time of Implantation.
Edgar Allen, Sc.D., New Haven, Conn., Studies of Differential Growth of Genital Tissue in Response to Ovarian and Pituitary Gonadotropic Hormones.
Rollin H. Denniston, Ph.D., Chicago, Roentgen Irradiation Studies on Pituitary and Sex Glands.
Warren O. Nelson, Ph.D., Detroit, Renewal of Sperm Formation in Hypophysectomized Rats.
William W. Greulich, Ph.D., Cleveland, and Dr. Edward S. Morris, Lacania, N. H., An Attempt to Determine the Value of Morning Rectal Temperature as an Indication of Ovulation in Women.

Accidental Deaths in Coal Mines.—Secretary of the Interior Ickes recently reported that 1,337 men were killed outright or succumbed to injuries received in or around coal mines in 1940. Secretary Ickes sent his report to Representative Joe L. Smith of West Virginia, chairman of the House Committee on Mines and Mining, which is considering legislation calling for federal inspection of coal mines. The 1940 record for coal mines was worse than that for any single year since 1928, the Secretary reported. There were 276 fatalities in six major disasters. Analysis of the principal causes showed that 45.9 per cent of the deaths were caused by falls of roof or coal, 22 per cent by gas and dust explosions, 16.5 per cent by accidents along haulage ways, 2.8 per cent by electricity, 2.6 per cent by explosives, 2.1 per cent by machinery and 8.1 by other causes.

Positions Available in Los Angeles County.—The Los Angeles County Civil Service Commission is holding examinations to fill residencies in four services at the Los Angeles County General Hospital: otorhinolaryngology, ophthalmology, neurosurgery and anesthesiology. Monthly salaries for the first three are $50, uniform and medical care and, in anesthesiology, $115, uniform and medical care. The usual three year county residence requirement has been waived for these examinations.

There will be no written examination. Candidates will be rated on their scholastic record in medical school, their internship record, and their aptitude and personal suitability for advanced training in the specialty as evidenced by investigation and interview. Interviews may be arranged outside of Los Angeles County if a sufficient number of applications are accepted in a particular locality. Additional information and application blanks may be obtained from the Los Angeles County Civil Service Commission, Room 102, County Hall of Records, Los Angeles, Calif. Application blanks must be filed by April 24.

Meeting of Pathologists and Bacteriologists.—The forty-first annual meeting of the American Association of Pathologists and Bacteriologists will be held at New York University College of Medicine, New York, April 10-11, under the presidency of Dr. Stanhope Bayne-Jones, New Haven, Conn. Included on the program will be:

Dr. Stuart Mudd, Katherine Polevitzky, Harry E. Morton, Sc.D., Philadelphia, and Thomas F. Anderson, Camden, N. J., The Structure of Bacteria as Shown by the Electron Microscope.
Drs. Edward M. Butt and Arthur M. Hoffman, Los Angeles, A Study of Latent Lesions of Coccidioidomycosis Correlated with Coccidioidin Skin Tests.
Drs. Robert A. Moore, St. Louis, Tom D. Spies, Cincinnati, Zola K. Cooper, Ph.D., St. Louis, and Dr. Harry Goldblatt, Cleveland, Histopathology of Pellagra.
Drs. Rolf Katzenstein, Milton C. Winternitz and Ernst Mylon, New Haven, Coagulation Time of the Blood and Mural Vascular Lesions as Determinants of Thrombosis.
Dr. George H. Whipple, Rochester, N. Y., Shock—Plasma Protein Building in Emergencies as Influenced by Intravenous Digests.
Dr. Virgil H. Moon, Philadelphia, The Cellular and Vascular Dynamics of Shock.
Dr. Frank W. Foote, Jr., New York, Lobular Carcinoma in Situ—One of the Rare Forms of Mammary Cancer.

Natality and Mortality, 1937-1939.—The U. S. Bureau of the Census has issued a special report on natality and mortality data showing the number of births and deaths and the birth and death rates for each state for the three years 1937-1939. The rates are based on provisional population figures from the 1940 census and therefore they differ in some cases from rates previously published, the report points out. The 1939 death rates were all lower than or were the same as those of 1937. Some had risen after declining slightly in 1938. Rates of more than 12 per thousand of population were found in Delaware, Maine, New Hampshire, Vermont and the District of Columbia. Rates less than 9 were in North Dakota, which had a rate of 8.4, Arkansas 8.5, South Dakota 8.5, Utah 8.6 and Oklahoma 8.7. Birth rates of 20 and over were reported for Alabama, Arizona, District of Columbia, Georgia, Idaho, Kentucky, Louisiana, Mississippi, New Mexico, North Carolina, North Dakota, South Carolina, Utah, Virginia, West Virginia and Wyoming. Lowest rates were in New Jersey 13.6, Connecticut 13.8, New York 14.1, Massachusetts 14.7 and Rhode Island 14.8. This report also shows trends of birth and death rates for the registration areas from their establishment through 1939. The death rate for the death registration area has fallen from 13.6 in 1915 to 10.6 in 1939. During the same period the birth rate in the birth registration area declined from 25.1 to 17.3.

FOREIGN

Physicians Prisoners of War.—A report made to the British Medical Association early in January indicated that ninety-two British physicians are prisoners of war in Germany, sixty of them members of the British Medical Association. The Council of the British Medical Association voted to waive their subscription costs during the period of captivity and also, if possible, to send them copies of the *British Medical Journal*.

New Health Officials in England.—Mr. Malcolm Macdonald, minister of health in the British cabinet, has been appointed high commissioner to Canada and Mr. Ernest Brown, who has been junior minister of health, has succeeded him. Sir George Chrystal, secretary of the British Ministry of Health, has retired on account of reaching the age limit. *Science* reports, and Sir Evelyn John Maude, deputy secretary, has succeeded him. In addition, Sir Arthur S. MacNalty, chief medical officer of the ministry of health and of the board of education, has retired on reaching the age limit, and Sir William Wilson Jameson has succeeded him. Sir William Wilson Jameson has been secretary of state for the colonies, dean of the London School of Hygiene and Tropical Medicine and professor of public health in the University of London.

Chinese Medical Schools Move.—Recent information from China relates that several institutions have had to be moved from Kunming in Yunnan Province to safer locations. National College of Medicine of Shanghai is now in Chungking working in cooperation with the Central Hospital and the Central Field Health Station of Weishengshu. Other moves are as follows: National Chungshan Medical College to Nanhsiung in Kwangtung, Tung Medical Department of Chi University to Yiping in Szechwan and Chungcheng to Chenning, Kweichow not far from Kweiyang. Yunnan University Medical College is the only one left in the vicinity of Kunming. Chungking, it is pointed out, is becoming an important medical center with the presence of the National College of Medicine of Shanghai, National Kiangsu Medical College, National College of Pharmacy, National Midwifery School and the Central School of Nursing.

Cancer Prizes to British Scientists.—The Katherine Berkan Judd prizes for 1939 and 1940, awarded for important contributions to knowledge of the cause and cure of cancer, will be presented to Dr. Ernest L. Kennaway and James W. Cook, Ph.D., of the Royal Cancer Hospital, London, according to *Science*. The 1939 award was postponed to assure careful consideration of various research projects here and abroad, it was said. The Judd prize was established by the will of Katherine Berkan Judd, wife of Lewis B. Judd of New York, who died in 1934. Mrs. Judd made Memorial Hospital for the Treatment of Cancer and Allied Diseases, New York, the trustee of a fund of $30,000. The current prizes of $1,000 each are for a project on which Dr. Kennaway and Dr. Cook are working together, the action of specific chemical substances, particularly coal tar derivatives, in the causation of cancer. Dr. Kennaway, according to the citation, established the facts that coal tar is more active at high temperatures and that it is the fluorescent element which is damaging. Dr. Cook, a chemist, discovered the molecular structure of the cancer-producing agent. Previous recipients of this award were Dr. Robert Meyer of the University of Berlin in 1937 and Prof. Claude Regaud of the Curie Institute of Paris in 1937.

CORRECTION

Births in Mount Carmel Mercy Hospital.—In the Hospital Number of The Journal March 15, page 1106, the number of births in Mount Carmel Mercy Hospital, Detroit, should have been 1,587 instead of 215, as printed.

Government Services

Dr. Durrett Appointed to Federal Trade Commission

Dr. James J. Durrett, chief of the drug division of the Food and Drug Administration and principal technical adviser of the Food and Drug Administration since 1936, has been appointed a special expert to the Federal Trade Commission with the designation of director of the medical advisory division, vice Dr. Knox E. Miller. Dr. Durrett had previously served as chief of the drug division of the Food and Drug Administration in the U. S. Department of Agriculture from 1928 to 1931, when he resigned to become director of professional relations for E. R. Squibb & Sons. Dr. Durrett is a native of Alabama and graduated from Harvard Medical School, Boston, in 1914. He served in various positions as a health administrator from 1915 to 1927 and during that period was for seven years superintendent of the department of health of Memphis, Tenn., and professor of public health at the University of Tennessee College of Medicine.

Physicians Needed for CCC in Third Corps Area

Applications are invited from physicians for medical service in the Civilian Conservation Corps in the Third Corps Area, which includes Pennsylvania, Maryland, Virginia and the District of Columbia. The initial salary is $3,200 a year. No quarters for families are provided, and the physicians are required to pay for their own food at the camps and to supply their own uniforms. The principal duties consist of the medical care of the enrollees and the practice of preventive medicine and supervision of sanitation. To be eligible, a physician must be a citizen of the United States, must be a graduate of an accredited medical school, must possess a license to practice and must be physically able to perform the duties required. All physicians interested in this type of work are requested to submit their applications to the Commanding General, Third Corps Area, Post Office Building, Baltimore, Md.

Foreign Letters

LONDON LETTER

(From Our Regular Correspondent)

Jan. 25, 1941.

Air Raid Casualties

The Ministry of Home Security has announced that, during December, 3,793 civilians were killed and 5,044 injured and detained in hospitals as a consequence of air raids. The 147 persons not included in the table were killed. The December total is a decrease over the preceding months. In November the number killed was 4,588; in October, 6,344. German airmen have killed 2,351 children under 16 years of age and injured 2,457.

Classification of Air Raid Casualties

	Men	Women	Children Under 16
Killed	1,691	1,434	521
Detained in hospitals	2,962	1,775	307

American Red Cross Aid to Britain

Mr. Daniel B. Grant, chairman of the American Red Cross Committee in Great Britain, has released figures showing the extent of its operations up to the end of 1940. Expenditure and commitments by the American Red Cross in Washington for British war relief purposes totaled $11,900,000. This sum includes direct expenditure, contracts entered into and the total value of the supplies produced or given by the three thousand seven hundred chapters of the American Red Cross in the United States. Since the formation of the American Red Cross Committee in Great Britain last July a total of $5,300,000 in cash and supplies has been handled through the accounts of the committee. The operation is in charge of Mr. Bowen McCoy, executive officer, directly assigned by the American Red Cross national headquarters in Washington, aided by two assistants similarly assigned. The general detail work of the committee is handled by a paid staff of nine persons. In addition there are five on a volunteer basis. Among the supplies provided have been some thousands of garments for evacuees and those who have lost their homes through bombardment; hospital and medical supplies of all kinds, particularly those not readily obtainable in this country; fleets of ambulances and canteens, and $750,000 for the immediate purchase in this country of goods urgently needed.

A Polish University in Edinburgh

The University of Edinburgh has offered the Polish government facilities, which have been accepted, for the establishment of a Polish school of medicine. This will be staffed by professors and teachers now serving with the Polish army in this country and by professors of the faculty of medicine of the Edinburgh University in such subjects as may not be represented among the Polish professors. Discussions are now proceeding with the Polish government to settle details. The Polish forces in this country include medical officers, of whom many are of high academic standing. There are also medical graduates of Polish universities who have lost for the present almost all opportunities for maintaining the standards of their professional skill. Finally there are in this country Polish medical undergraduates, the value of whose studies will be seriously affected unless something is done to mitigate their situation.

The destruction or closure of the Polish universities and other institutions and the barbarous treatment of their professors and teachers by the Germans are well known. It is the proclaimed intention of Germany to abolish all higher education in Poland. When freed from the German yoke that country will be found destitute of all means for university teaching. With this in mind the University of Edinburgh has established the nucleus of the Polish Faculty of Medicine, so that an important branch of Polish learning—medical research and teaching—may be kept alive.

Drug Supplies in Wartime

In a lecture before the Wholesale Drug Association Mr. A. Mortimer, secretary and chairman of the Pharmaceutical Export Group, said that British chemists were manufacturing products which before the war were made exclusively in enemy countries. The addendum to the British pharmacopeia, which had just been published, contained monographs on some preparations which had in the past been sold in this country under trade names. The pharmacopeia commission had given them new names, and it was expected of prescribers that they should use these names and not the proprietary ones. It was also important that British exporters should supply to their customers abroad the products which were now being made in this country under designations official in the pharmacopeia.

The Cost of Workmen's Compensation

It has been pointed out (THE JOURNAL, Aug. 24, 1940, p. 620) that the workmen's compensation acts, which entitle a workman or his dependents to compensation for incapacity due to an accident "arising in or out of his employment" have been so widely interpreted as to cover anything which can happen to him in any way connected with his employment. Thus a workman collapsed and died while turning a nut. Death was found to be due to rupture of an aneurysm which might have occurred at any moment, but the court held it to be an "accident" within the meaning of the acts. According to a government return just published, workmen's compensation for accidents and industrial diseases in the seven great groups of industries—mines, quarries, railways, factories, docks, constructional work and shipping—amounted during 1938 to $38,000,000. These groups do not cover the whole field and exclude in particular building, road transport, agriculture and commercial and domestic employments. The total compensation paid in respect to two thousand four hundred and ninety-eight fatal accidents was $456,725 and of nonfatal accidents $30,000,000. The industrial distribution of the payments was as follows: shipping $1,560,000, factories $13,000,000, docks $1,400,000, constructional work $1,400,000, railways $1,400,000. But these were only what was paid to workmen or their dependents. To them must be added administrative expenses and medical and legal costs of employers and insurance companies. It is estimated that the cost is something like $17,000,000. Under the special schemes for compensation for silicosis and asbestosis $1,150,000 was paid in 2,739 cases.

C. T. Holland, Pioneer Radiologist

Mr. C. T. Holland, F.R.C.S., a pioneer in the use of roentgen rays, has died at the age of 77. He was educated at University College Hospital and settled in Liverpool as a general practitioner but soon made his reputation as a radiologist. He was appointed honorary radiologist to the Royal Liverpool Southern Hospital in 1896, which position he held until 1904, and from that year until 1923 he held a similar appointment at the Liverpool Royal Infirmary. During the war of 1914-1918 he was radiologist to the First General Hospital of the Army with the rank of major and consultant radiologist to the Western Command. He developed a new technic for the localization of bullets. Applying the principle of the gunner's height finder he devised a depth finder, which has proved most valuable in radiography. Among many honors he was elected in 1923 president of the first International Congress of Radiology, which was held in London. He was twice president of the Roentgen Society. He was lecturer in radiology to the University of Liverpool. America honored him with a fellowship of the College of Radiology.

PARIS

(From Our Regular Correspondent)

Dec. 2, 1940

The Corporate Health Idea

More information can now be given regarding the reorganization of public health and the place of the physician in the new social scheme. The creation of a health corporation which is to include the medical profession seems to thoughtful minds to give to medicine its fullest scope of service to the public. Since the medical syndicates have been dissolved there has been need of something to take their place. In spite of the good things for which the medical syndicates stood, certain defects clung to them from the beginning which paralyzed their best intentions. First of all, the electoral system under which they worked impeded the initiative of their officers, whose interest centered on reelection. Again, the physicians who were members of the syndicates were concerned a great deal with the protection of their professional interests and showed little desire to rise above their professional routine and try to place the healing art on a rational and national foundation. Moreover, syndicate affiliation was not compulsory. Scarcely half of the physicians were members. The medical syndicates could not enforce their decisions on nonmembers unless these had at the same time the sanction of the law. Under these circumstances the medical syndicates could hardly in reality control abuses which might reflect on the profession. One of the principal factors in the corporate organization is that it will include all the members of the profession and that its decisions will carry the weight of civil tribunals.

The organization of the corporate system presents serious problems. Should it include only physicians or all connected with public health, such as veterinarians, druggists, dentists, midwives, nurses and social welfare assistants? It seems that the more inclusive conception will prevail and that the health corporation will include all who can present the educational evidence of competent training and are engaged in public health service. Even hygienists and health technicians may be included.

The individual features of the corporate health organization have not yet been worked out. Among these are whether it is to control the hospitals and medical education; whether its supreme council is to have authority over the administration of public health. On the other hand, this health corporation may simply constitute an interprofessional council uniting the various groups that have to do with public health. The corporation would then act in the capacity of health adviser to the state, with three tasks imposed on it: (1) family welfare, (2) organization of preventive medicine and (3) control of social phenomena (syphilis, falling birth rate, tuberculosis, alcoholism and the coordination of all health activities). It would then comprise the order of physicians and the orders of various professional health workers, exercising moral supervision over these professions and their members. This council would be designated either by the government or by the members of the departmental or regional councils, who would be elected on the basis of a plurality vote. Each health profession would have charge of its own affairs. The interprofessional committee would regulate common interests, coordinate activities and arbitrate differences. A census would be made of all engaged in health work. They would be furnished with a card of identification. It has even been proposed that physicians stamp their prescriptions with a legal seal in order to suppress fraud.

Whatever the arrangement finally adopted, the health corporation will simply be the prolongation of the syndicates, if the protection of privileges and the insistence on rights control the picture. The principal role of the corporation must be to establish ethical standards for physicians and associated health workers. The usefulness of the corporation will depend on whether men of intelligence and probity are left free to make of their profession an effective instrument of public health.

Scarcity of Drugs

The war has made drugs scarce in France. Last year the French army had accumulated, through requisition, an abundance of stocks which would have been returned to the trade. Much of it disappeared after the invasion. The difficulties arising from the disorganization of transportation and the division of the country into two zones under military control aggravated the situation still more. There is no hope of improvement as long as both parts of France are isolated from each other and the world. Before the war France imported many vegetable products, which might have been grown here but which it was advantageous and convenient to buy abroad. Atropa belladonna, for example, came from Egypt, put up in standardized form. The atropine content was fixed, whereas French belladonna was not so carefully controlled. Opium and its derivatives are scarce. Opium used to be derived from Turkey, Yugoslavia and Persia. Present supplies will not last long. Japan used to furnish France with camphor and synthetic menthol. Spain sent ephedrine and mercury. From America came hamamelis, ipecac, kola and quinine. Caffeine and theobromine were extracted from imported coffee and cacao. Rhubarb came from America, strophanthin from Cameroun, nux vomica from the Indies. There will be a shortage of all these before long. Digitalis was cultivated in the eastern part of France now under the heels of the invaders.

Ingenuity has been exercised to replace the products of foreign origin. Digitalis will be replaced by maize and bearberry, hamamelis by cupressus and Aesculus hippocastanum. Purgatives and antispasmodics of national manufacture are numerous, but the scope of therapeutics will become more limited. Indigenous cultivation will take time. Besides, it will be as difficult to require the practicing physician to familiarize himself with drugs which are little known at present as it is to expect the French peasant to undertake the cultivation of unknown products on a large scale.

In certain products, such as alcohol, ether, acetic acid and the salicylic acids and especially for benzene and its derivatives, such as sulfanilamide, the situation is less critical. Synthetic products, for example epinephrine, can be manufactured in sufficient quantities. Metals are not lacking. Bromine and iodine derived from kelp were produced in France, but mobilization interfered with the harvest. Cacao, paraffin and mazout may be replaced by hydrogenated oils, but oils and soaps are scarce. Cotton no longer arrives from Egypt and the United States. This caused a dearth of dressing material. Gauze may be replaced by bran and absorbent sawdust.

Vitamins are becoming so scarce that some of them will soon be exhausted. Vegetables from which carotene is derived are grown in France. Vitamin A might be obtained from the tunny and a kind of shark found in abundance on the coasts of France, but cod liver oil and halibut liver oil will be seriously missed. Vitamin B can be produced from beer yeast. However, this also requires the creation of a new organization and new equipment. Vitamin C is a synthetic product of which sugar is the base. Vitamin D is derived from cholesterol. Wheat germ will furnish vitamin E. The greatest need is in therapeutic extracts. Most of these were imported. France cannot supply her needs, for her live stock is reduced by half.

To prevent speculation and increased prices, already formidable, the government may have to issue drug cards.

Scarcity of Food

The weekly ration allowed the French people makes allowance for 1,224 calories a day and consists of meat 360 Gm., butter and fats 100 Gm., bread 2,450 Gm. (inclusive of flour), pâtes alimentaires 250 Gm., potatoes 1 Kg., sugar 700 Gm., coffee, composed three fourths of roasted grains, 300 Gm. and cheese 25 Gm. This ration is clearly insufficient for most age levels. In the case of nurslings the sugar content is too low.

Children from 7 to 14 years require, on the average, 1,900 calories. A child of 12 years weighing 34 Kg. needs calories equal to those of adults; children weighing 44 Kg. need even more than adults. Workers engaged in hard manual labor should have 3,000 to 3,500 calories. The food restrictions exceed by far the severest rationing to which the Germans were subjected in 1916. The rations likewise are not balanced. Animal and vegetable proteins, of which the former contain the amino acids indispensable to growth, instead of being represented in equal proportions, show the ratio of 36:13 Gm. The potassium and calcium levels are likewise altered. There is vitamin deficiency. It is true that eggs, fish, horsemeat, legumes, fruit, wild game and chocolate are not rationed, but they are difficult to obtain in towns or else command a prohibitive price. The supplementary calories which agriculture could produce would give every Frenchman 570 additional calories, amounting to about 1,800 calories a day. The consequent loss in body weight is estimated at one tenth.

Milk production has been greatly diminished and its transportation, like that of the other foodstuffs, hindered. Paris now receives about 500,000 liters of milk daily instead of the customary 900,000. Normal milk containing from 36 to 38 Gm. of butterfat per liter has to be reserved for children and the milk skimmed for all others, thus reducing the butter content to 2 or 3 Gm. per liter. The nutritional value of the milk is diminished by half, but the casein, the value of which is estimated at three times that of meat, as well as its lactose, salts and vitamins B and C, is retained. Curdled milk, white cheese and buttermilk will have to be used on a larger scale. The vitamin needs are critical, especially for provitamin and vitamin A, derived from cod and halibut livers and butter. Synthetic vitamins can also be counted on, provided they can be manufactured.

Many suggestions have been made, notably by Lesné, Chouart and Pozerski de Pomiane, to meet the conditions. Housewives are taught the art of preparing appetizing and balanced dishes from remnants and waste products. They are to get along without butter, fats or oils and use new substances such as lucerne, which contains 20 per cent of proteins and vitamins A, B and C, and sunflowers and peanuts. Breast feeding will be stressed. Attempts will be made to produce oil from grape seeds or pumpkin seeds. Martel, before the academy, called attention to the fact that out of 5,000 tons of blood collected daily from the slaughterhouses of Paris only 130 tons was used for food purposes. The remainder could be recovered provided the abattoirs are modernized. Likewise, every year more than 2 million Kg. of tuberculous meat is thrown away. This might be sterilized and prepared for consumption.

Sulfonamides in Cerebrospinal Meningitis

Rathery and his collaborators reported to the Medical Society of the Hospitals the observations made in 61 cases of cerebrospinal meningitis treated in the Center of Contagious Diseases of the Army during the first five months of 1940. In 60 cases the micro-organism was identified as the meningococcus A, in 1 case as the meningococcus B. In 8 cases there was also found a pseudomeningococcus of the crassus and flavus types. Eleven cases presented an acute, purpuric and comatose condition. Three patients died. The first patient was moribund on admission; the second succumbed to renal block, the third to grave lesions of pachyarachnoiditis. The low mortality rate (5 per cent as compared with 40 per cent during the preceding twenty years at this hospital) is attributed to the use of sulfonamides.

Two forms of sulfonamides were used: sulfanilamide and sulfapyridine. In certain cases of extreme gravity, serum therapy was employed adjuvantly. The classic routes of administration were used. The best route seemed to be the oral route. The drug can also be used nasally in powdered form. In severe cases accompanied with vomiting the rectal route was used. Massive doses were given and the toxicity was noted. The threshold of therapeutic effectiveness varied somewhat according to the form of medication and to the cases. The mechanism of sulfonamide action is obscure. In serious cases, indicated by refractiveness to the drug, serum therapy must be added. (Two of the deaths were cases of refractiveness.) No untoward effects were observed. Generally a slight anemia, accompanied by dissociated icterus and massive urobilinemia, was observed. Rathery's conclusions are that the sulfonamides cure so many cases of cerebrospinal meningitis that the prognosis of this disease is that of a relatively benign disorder.

BUENOS AIRES

(From Our Regular Correspondent)

Dec. 6, 1940.

Tuberculosis in South America

There has been a decline in the death rate from tuberculosis in Buenos Aires, according to data for 1939 presented by A. A. Raimondi in the *Archivos argentinos de tisiologia* (**16**:55 [Jan.-March] 1940).

The construction of the tuberculosis institute in Buenos Aires to house 1,373 beds is progressing. The complete cost of construction is set at 10,000,000 pesos (about $2,975,000). For the present a division comprising 482 beds is to be completed. In this institute for tuberculosis 290,000 examinations were made in 1939.

Córdoba, capital of a province of the same name and seat of the oldest university of the country, has a tuberculosis institute housed in the Hospital Tránsito Cáceres de Allende, where the central policlinic for the control of tuberculosis also is housed. Dr. Gumersindo Sayago, professor of tuberculosis, is in charge of these activities. The hospital has 200 beds.

In the university of La Plata, in the province of Buenos Aires, the erection of an institute for tuberculosis is planned, to cost 800,000 pesos (nearly $240,000), one fourth of which is for equipment. The institute will have 150 beds and divisions for surgery, radiology and physical therapy, also clinics, policlinics, laboratories, a school for the training of personnel, a kindergarten and a placement bureau for cured persons.

The Center for Tuberculosis Research was organized in 1934, in accordance with law. The center was given the pavilion "Las Provincias" of the Hospital Tornu, where patients from the whole country are received. The center is not merely an imitation of similar institutions of European origin but is adapted to the special needs of Argentina. It is concerned not only with research, social welfare and training of personnel but with prophylaxis and popular education with regard to tuberculosis. In the absence of funds for follow-up work in the homes, the patients are called in periodically. A museum is also being organized.

In Peru the control of tuberculosis is now a state function. The department of tuberculosis, founded in 1939, has already made considerable headway. It has organized a policlinic in Lima and another in El Callao, arranged serial examinations for school children and members of the teaching staff in these two cities and promoted the erection of a hospital for tuberculous children. The government in the next five years expects to organize additional policlinics and a mobile policlinic to be able to isolate infected, antisocial and incurable persons and to construct a hospital for the surgical treatment of tuberculosis.

In an article by O. Téllez Sarzola in the *Reforma Médica* (June 1, 1940, p. 351), tuberculosis is shown as leading all diseases in Peru in its mortality. Among Spanish-American capitals, Lima had the highest mortality rate for tuberculosis, namely 400 per hundred thousand inhabitants. Most of the deaths occurred between the years of 15 to 29 and affected chiefly natives and mestizos.

In Colombia, 10,000,000 pesos ($2,977,000) has been bequeathed by the deceased Gustavo Restrepo, the wealthiest man in the country, for the construction of a tuberculosis sanatorium, to be called San Carlos. This sanatorium promises to be the largest in South America.

Chile's Bacteriologic Institute

The Institute of Hygiene in Santiago de Chile, founded in 1892, was replaced in 1929 by a new bacteriologic institute directed, until his death in 1932, by the Austrian bacteriologist Rudolf Kraus and since then by Dr. Eugenio Suárez H., who had been associated with Kraus. The institute is now autonomous, governed by its director and a council. Its chief functions are research, the training of bacteriologists and hygienists, the carrying out of diagnostic examinations and the manufacture of serums, vaccines and biologic products. Since 1932 its chief research activities have been concentrated on typhoid, rabies, anthrax and bacterial antigens. The institute periodically arranges courses for laboratory assistants. Its facilities are open also to hygienists of neighboring countries such as Bolivia, Peru, Ecuador and Venezuela. The institute has seven divisions: immunology, filtrable viruses, chemotherapy, organotherapy, pharmacology, a diagnostic central laboratory and controls. It prepares all biologic products required. The proceeds of the sales revert to the institute for research. For the last two years the institute has been experimenting with the extraction and purification of vitamins derived from the viscera of Chilean fish to be used in the control of malnutrition. At the time of the earthquake near Concepción in January 1939 the institute was able to furnish in one week 25,000 doses of tetanus, anaerobic and gas gangrene antitoxins and 2,000 doses of scarlet fever antitoxin. Within the period of two weeks 480,000 doses of typhoid vaccine were shipped and an equal number held in readiness. Two hundred thousand persons were successfully vaccinated under the direction of the institute. The personnel of the institute comprises two hundred and five members, of whom twenty-four are physicians and ten chemists on full time. The annual budget for 1938 amounted to 5,000,000 Chilean pesos ($200,000). The institute publishes the *Revista del Instituto bacteriológico de Chile.*

Society News

The seventh Argentine National Congress of Medicine will take place in November 1943 in La Plata, under the presidency of Prof. Orestes E. Adorni, dean of the faculty of medicine of the University of La Plata.

Personals

Dr. Lewis W. Hackett and Dr. Richard M. Taylor of the division of international hygiene of the Rockefeller Foundation were in Buenos Aires to organize a center for ultravirus studies in the bacteriologic institute directed by Prof. Alfredo Sordelli. Thirty thousand dollars has been given to this center, which is to serve Argentina, Uruguay, Paraguay, Chile, Peru, Bolivia and Ecuador. It will be conducted by Dr. Taylor under the direction of Dr. Sordelli.

Dr. Ross A. McFarland of Harvard University, director of medical research for the Pan American Airways, has delivered a series of lectures in Buenos Aires in the physiologic institute of the university. Prof. José Arce was chosen president of the Argentine Academy of Sciences for the coming year.

Deaths

Prof. José da Costa Cruz, director of the Oswaldo Cruz laboratory and a pupil of Bordet-Bruessel, died in Rio de Janeiro.

Prof. E. S. Chagas, who, like his father, Carlos Chagas, specialized in tropical and infectious diseases and who recently lectured in Buenos Aires, lost his life in a collision of two airplanes over Rio de Janeiro.

Marriages

WILLIAM RICHARD SMART, Norfolk, Va., to Miss Hazel Christina Irwin of Leedey, Okla., in Oklahoma City, Oct. 26, 1940.

ANTON S. YUSKIS, San Diego, Calif., to Miss Alberta J. Frederickson of Stratford, Iowa, in La Jolla, Calif., Nov. 28, 1940.

WILLIAM H. GARNIER to Miss Florence Lee Tomblinson, both of Madisonville, Ky., in St. Louis, Dec. 28, 1940.

ELIOT N. FREEMAN JR., Pottsville, Pa., to Miss Jeanne P. Chaapel of New York in Philadelphia, Dec. 14, 1940.

WILLIAM LE GRAND HUNTER, Lakeland, Fla., to Miss Katherine Brittingham at Portsmouth, Va., Dec. 28, 1940.

HERBERT GORDON BARBER, Fort Riley, Kan., to Miss Sylvia June Jorgensen of Carroll, Iowa, Dec. 21, 1940.

VICTOR H. PRUSA, Banner Elk, N. C., to Miss Nellie Sue Metcalf of Johnson City, Tenn., Nov. 13, 1940.

MASON DAVID BRYANT JR., Lowell, Mass., to Miss Emma Joice Gleason of Boulevard, Va., Dec. 21, 1940.

WILLIAM ALLEN SMITHSON, Goodman, Miss., to Miss Empress Hooper of Kosciusko, Dec. 22, 1940.

JOHN EDWARD HAMNER, Petersburg, Va., to Miss Augusta Louise Johnson of Richmond, Dec. 14, 1940.

DAVID R. MINTER, Rochelle, Miss., to Miss Mary Sue Wootton of Evansville, Ind., Dec. 11, 1940.

PATRICK M. COCKETT JR., Wailuku, Hawaii, to Miss Clella Clanahan of Brownfield, Ill., Dec. 29, 1940.

GEORGE LESLIE PORTER, Dallas, Texas, to Miss Margaret Upschulte at San Antonio, Dec. 23, 1940.

RICHARD D. KRAFT to Miss Louise F. Hartley, both of Johnstown, Pa., in Greensburg, Nov. 2, 1940.

ROBERT CREGOR BATEMAN to Miss Charlotte Almada Wible, both of Lexington, Ky., Dec. 19, 1940.

THOMAS DUVAL WATTS, Richmond, Va., to Miss Ruby Alice Lake of Jackson, Tenn., Nov. 30, 1940.

SAMUEL S. LOMBARDO, Chicago, to Miss Marguerite Britz of Winston-Salem, N. C., Dec. 25, 1940.

HENRY MASON MORFIT, Baltimore, to Miss Phyllis Childs of Englewood, N. J., Dec. 28, 1940.

GEORGE Y. GILLESPIE JR. to Miss Emma Louise Horne, both of Greenwood, Miss., Dec. 15, 1940.

DAVID IVAN RUTLEDGE, Herman, Neb., to Miss Marian Wilkerson of Omaha, Dec. 28, 1940.

ROBERT RICHARDSON EASON, Buena Vista, Va., to Miss Mabel Nash of Blackstone, Dec. 21, 1940.

THOMAS S. WEAVER to Miss Elizabeth Moore, both of Morristown, Tenn., Dec. 27, 1940.

WILLIAM S. KNOX to Miss Marilyn Mary Blair, both of Waynesburg, Pa., Sept. 30, 1940.

ROBERT A. ORR, Memphis, Tenn., to Miss Ann E. Robertson of Mayfield, Ky., Dec. 25, 1940.

OTTO F. L. PROCHAZKA to Miss Susan Furlong, both of Wichita, Kan., Dec. 31, 1940.

DAVID KIMBERLY JR. to Miss Willene Glenn, both of Hot Springs, N. C., Dec. 7, 1940.

EDWARD STEWART ORGAIN to Miss Ann Lewis, both of Durham, N. C., Dec. 28, 1940.

JOSEPH NEY, Harrisonburg, Va., to Miss Carol Smith Straus of Richmond, Dec. 5, 1940.

SAMUEL MILCHIN, Bishop, Va., to Miss Virginia Macom of Pocahontas, Nov. 22, 1940.

ALBERT C. STUTSMAN, St. Louis, to Miss Helen Eades of Urbana, Ill., Dec. 21, 1940.

ADOLPH B. CIMFEL, Scotia, Neb., to Miss Celeste Ann Coufal of Howells, Nov. 16, 1940.

JOHN ALLEN JONES, Opelika, Ala., to Miss Lucile Lewis of Tuskegee, Dec. 10, 1940.

ALFRED L. VADHEIM to Mrs. Gladys Donovan, both of Tyler, Minn., Nov. 13, 1940.

ROSS D. WRIGHT to Miss Kathryn Bruner, both of Tacoma, Wash., Dec. 24, 1940.

PAUL M. SZUTOWICZ to Miss Louise Norse, both of Berwick, Pa., Nov. 21, 1940.

Deaths

Francis Edward Stewart, Philadelphia; Jefferson Medical College of Philadelphia, 1879; secretary of the Section on Materia Medica and Pharmacy of the American Medical Association from 1892 to 1894 and chairman, 1895-1896; formerly demonstrator of materia medica and pharmacy at his alma mater and at the Woman's Medical College; for many years lecturer on jurisprudence and patent laws and quiz master in pharmacy and theoretical chemistry at the Philadelphia College of Pharmacy; was professor of materia medica, botany and physiology at the Medico-Chirurgical College; was on the staff of the Glen Springs Sanitarium, Watkins, N. Y., from 1892 to 1894; a member from Delaware of the Convention for Revision of the United States Pharmacopeia in 1890; honorary president of the American Pharmaceutical Association, honorary life member of the Pennsylvania Pharmaceutical Association, fellow of the American College of Physicians, honorary fellow of the Seaboard Medical Association, fellow of the American Therapeutic Association and of the American Academy of Medicine; at one time member of the hospital committee of the New York State Charities' Aid Association and chairman of its committee on almshouses; organized scientific departments in several pharmacochemical companies; author of "Stewart's Compend of Pharmacy," now in its tenth edition; aged 87; died, February 20, of uremia and heart disease.

Horace G. Wetherill, Monterey, Calif.; University of Pennsylvania Department of Medicine, Philadelphia, 1878; chairman of the Section on Obstetrics and Gynecology of the American Medical Association, 1910-1911, and member of the House of Delegates, 1910, 1912, 1917 and 1918; past president of the Colorado State Medical Society, Mercer County (N. J.) Medical Society, Denver County Medical Society and the Western Surgical Association; member of the Pacific Coast Surgical Association; fellow of the American College of Surgeons; served during the World War; professor of gynecology and abdominal surgery at the Medical Department, University of Denver, from 1897 to 1905; served at various times on the staffs of St. Francis Hospital and the Mercer Hospital, Trenton, N. J., St. Luke's Hospital, Mercy Hospital, City and County Hospital and the Children's Hospital, Denver; aged 84; died, January 24, at Huntington Memorial Hospital, Pasadena, of coronary thrombosis, arteriosclerosis and bronchopneumonia.

John William Scott McCullough, Toronto, Ont., Canada; Trinity Medical College, Toronto, 1890; chief health officer, department of health of Ontario, from 1910 to 1935; examiner in clinical surgery for the College of Physicians and Surgeons of Ontario from 1904 to 1908; lecturer of public health administration, University of Toronto, from 1924 to 1936; formerly member of the school board and mayor of Alliston; served with the Canadian Army during the World War; formerly secretary of the Royal Commission on Cancer; past president of the Canadian Public Health Association; aged 72; died, January 5.

Kennedy Crawford McIlwraith, Toronto, Ont., Canada; University of Toronto Faculty of Medicine, 1894; professor emeritus of obstetrics at his alma mater, where he served from 1899 to 1933; formerly chairman of the maternal welfare committee of the Toronto Academy of Medicine, and a member of the advisory board of the board of health of Toronto; on the staff of the Toronto General Hospital from 1899 to 1933; at one time on the staff of St. Michael's Hospital; aged 72; died, January 22.

Charles Alexander Wilson, Detroit; Detroit College of Medicine and Surgery, 1917; member of the American Academy of Pediatrics; instructor of pediatrics at the Wayne University College of Medicine; associate physician, New Mexico Cottage Sanatorium, Silver City, 1917-1918; superintendent, Detroit Tuberculosis Sanatorium, 1918-1919; on the staff of the Merrill-Palmer School and attending physician, Children's Hospital of Michigan; aged 49; died, January 2, of coronary thrombosis.

John Croom Rodman, Washington, N. C.; Bellevue Hospital Medical College, New York, 1892; member of the Medical Society of the State of North Carolina; past president and secretary of the Beaufort County Medical Society; at one time member of the state board of medical examiners; formerly acting assistant surgeon, United States Public Health Service; aged 70; died, January 24, of carcinoma of the larynx.

Henry Reed Searle ✱ Rockford, Ill.; State University of Iowa College of Medicine, Iowa City, 1925; fellow of the American College of Surgeons; member of the board of directors and past president of the Winnebago County Tuberculosis Association; served during the World War; aged 41; president of the staff of the Rockford Hospital, where he died, January 21, of carcinoma of the colon.

James Matthews Oliver, Portland, Tenn.; Vanderbilt University School of Medicine, Nashville, 1911; member of the Tennessee State Medical Association; served during the World War; at one time superintendent of the Davidson County Tuberculosis Hospital, Nashville; past president of the Sumner County Medical Society; aged 53; died, January 11, of coronary disease.

Francis Lee Thurman, Buena Vista, Va.; University of Virginia Department of Medicine, Charlottesville, 1894; member of the Medical Society of Virginia; president of the Rockbridge County Medical Society; was chairman of the board of health; aged 74; died, January 19, in the University of Virginia Hospital, Charlottesville, of arteriosclerosis and diabetes mellitus.

Abram Pott Seligman, Mahanoy City, Pa.; Jefferson Medical College of Philadelphia, 1892; Hahnemann Medical College and Hospital of Philadelphia, 1894; member of the Medical Society of the State of Pennsylvania; on the staff of the Locust Mountain State Hospital, Shenandoah; aged 70; died, January 22, of coronary thrombosis.

George Benjamin Potter, Omaha; University of Nebraska College of Medicine, Omaha, 1905; member of the Nebraska State Medical Association and the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; associate professor of ophthalmology at his alma mater; aged 63; died, January 24.

Edward Frederick Murphy ✱ Boston; McGill University Faculty of Medicine, Montreal, Que., Canada, 1899; served during the World War; chief medical examiner for the law department of the city of Boston; president of the Forest Hills Hospital; formerly on the staff of St. Elizabeth's Hospital; aged 63; died, January 15.

Oscar A. Mockridge ✱ Montclair, N. J.; Columbia University College of Physicians and Surgeons, New York, 1906; served during the World War; on the staff of the Babies Hospital and Presbyterian Hospital, Newark, and the Community Hospital; aged 57; died, January 25, in the Neurological Institute, New York.

George Edward Teehan ✱ Cranston, R. I.; Yale University School of Medicine, New Haven, 1907; on the staff of the Homeopathic Hospital and assistant visiting ophthalmologist, St. Joseph's Hospital, Providence; consulting specialist, Veterans Administration; aged 60; died, January 4, of coronary thrombosis.

Tarpley W. West, Shannon, Ga.; University of Nashville (Tenn.) Medical Department, 1903; at one time county physician and member of the board of education of Cherokee County; on the associate staff of the McCall Hospital, Rome; aged 70; died, January 24, of carcinoma of the prostate with metastases.

James Eugene Roberts, Lansdowne, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1899; member of the Medical Society of the State of Pennsylvania; on the staff of the Joseph Price Memorial Hospital, Philadelphia; aged 64; died, January 4, of coronary occlusion.

Henry Towne Safford Jr. ✱ El Paso, Texas; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1929; member of the American Society of Anesthetists; aged 35; died, January 12, in Roswell, N. M., of an incised wound of the throat, self inflicted.

John J. Wickham, Rochester, Pa.; Medical College of Ohio, Cincinnati, 1885; member of the Medical Society of the State of Pennsylvania; past president of the Beaver County Medical Society; on the staff of the Rochester General Hospital; aged 78; died, January 5, of coronary heart disease.

Hugo Robinson, Albany, Ga.; University of Louisville (Ky.) Medical Department, 1890; member of the Medical Association of Georgia; past president of the Georgia Health Officers' Association; for many years county health officer; aged 86; died, January 8.

James William Crow, Decatur, Ala.; Chattanooga (Tenn.) Medical College, 1905; member of the Medical Association of the State of Alabama; on the staff of the Benevolent Society Hospital; aged 62; died, January 14, of lobar pneumonia and cerebral hemorrhage.

George Leon Williamson, Jackson, Tenn.; Vanderbilt University School of Medicine, Nashville, 1904; member of the Tennessee State Medical Association; on the staff of the Webb-Williamson Hospital; aged 59; died, January 6, of myocarditis and hypertension.

Thomas Joe Stewart, Wynne, Ark.; Memphis (Tenn.) Hospital Medical College, 1902; member of the Arkansas Medical Society; past president and secretary of the Cross County Medical Society; aged 62; died, January 7, of cerebral hemorrhage.

Edward Mason Parker, Washington, D. C.; University of the City of New York Medical Department, 1884; served during the World War; fellow of the American College of Surgeons; consultant, Providence Hospital; aged 80; died, January 13.

Adam Schauf, Centerport, N. Y.; College of Physicians and Surgeons, medical department of Columbia College, New York, 1887; at one time on the staff of the Bushwick Hospital, Brooklyn; aged 75; died, January 24, of arteriosclerosis and hemiplegia.

Elmer Holmes Flinn ● Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1905; assistant clinical professor of medicine, Loyola University School of Medicine; on the staff of St. Elizabeth's Hospital; aged 61; died, January 25.

William Rudolph Mechtenberg, Morrison, Ill.; University of Nebraska College of Medicine, Omaha, 1929; member of the Illinois State Medical Society; aged 43; died, January 1, in Maquoketa, Iowa, of injuries received in an automobile accident.

Thomas Conroy Eley ● Plymouth, Ind.; Indiana University School of Medicine, Indianapolis, 1918; past president of the Marshall County Medical Society; served during the World War; aged 48; died, January 20, of coronary thrombosis.

John George Stanley, Marion, S. C.; Medical College of the State of South Carolina, Charleston, 1915; chairman of the local board of health; aged 62; died, January 7, in a hospital at Mullins of injuries received in an automobile accident.

Levi Lore Riggin ● Pasadena, Calif.; University of Pennsylvania Department of Medicine, Philadelphia, 1900; fellow of the American College of Surgeons; served during the World War; aged 70; died, January 19, of coronary occlusion.

Joshua Franklin Weeks, New Bedford, Mass.; University of Vermont College of Medicine, Burlington, 1890; member of the Massachusetts Medical Society; formerly school physician; aged 74; died, January 12, of coronary thrombosis.

John Russell Rittenour, Washington, D. C.; George Washington University School of Medicine, Washington, 1940; intern at the Garfield Memorial Hospital; aged 25; died, January 14, in the Emergency Hospital of cerebral hemorrhage.

Hugh Henry Slocumb, Avon, Minn.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1905; served during the World War; aged 58; died, January 7, of cerebral hemorrhage.

Stephen Wilson Paige, St. Albans, Vt.; University of Vermont College of Medicine, Burlington, 1884; member of the Vermont State Medical Society; on the staff of St. Albans Hospital; aged 90; died, January 15, of influenza.

Lucien Bayard Mitchell ● Tampa, Fla.; University and Bellevue Hospital Medical College, New York, 1906; served during the World War; on the staffs of St. Joseph's and Tampa Municipal hospitals; aged 60; died, January 26.

Carlton Herman Rice, Oakland, Calif.; University of Minnesota Medical School, Minneapolis, 1927; member of the California Medical Association; aged 41; was found dead, January 17, in San Francisco of cerebral hemorrhage.

Matilda A. Jardine, Newark, N. J.; New York Medical College and Hospital for Women, New York, 1887; aged 92; died, January 22, in the East Orange (N. J.) General Hospital of heart disease, bronchitis and pneumonia.

Franklin Pierce Reid, Indianapolis; Indiana Medical College, School of Medicine of Purdue University, Indianapolis, 1906; on the staff of St. Francis Hospital; aged 66; died, January 5, of cardiovascular renal disease.

Leo Charles Du Bois ● Newburgh, N. Y.; Cornell University Medical College, New York, 1908; served during the World War; on the staff of St. Luke's Hospital; aged 54; died, January 8, of coronary thrombosis.

D. Peter Wiens, Peoria, Ill.; Kansas City (Mo.) Homeopathic Medical College, 1896; served during the World War; member of the Radiological Society of North America; aged 73; died, January 4, of paralysis agitans.

John George Meidenbauer, Buffalo; University of Buffalo School of Medicine, 1886; member of the Medical Society of the State of New York; aged 82; died, January 24, of chronic myocarditis and pulmonary edema.

Albert Howard Freeman, Ocala, Fla.; Kentucky School of Medicine, Louisville, 1892; member and past president of the Florida Medical Association; served during the World War; aged 74; died, January 11.

Clark J. Sutherland, Clarkston, Mich.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1891; aged 73; died, January 14, in the Goodrich (Mich.) General Hospital of pneumonia.

Arthur William Stevenson, Largo, Fla.; Boston University School of Medicine, 1897; served during the World War; aged 67; died, Dec. 7, 1940, in the Veterans Administration, Bay Pines, of cerebral hemorrhage.

Lester Horton Quackenbush, Binghamton, N. Y.; University of the City of New York Medical Department, 1889; member of the Medical Society of the State of New York; aged 79; died, January 14.

Frank McLean Campbell, San Pedro, Calif.; Northwestern University Medical School, Chicago, 1911; at one time acting assistant surgeon in the United States Public Health Service; aged 53; died, January 2.

Isaac Howe Holloway, Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1911; aged 65; died, January 4, of coronary thrombosis and arteriosclerosis.

Frank J. M. Moormeister, Salt Lake City; Ludwig-Maximilians-Universität Medizinische Fakultät, Munich, Bavaria, Germany, 1903; aged 62; died, January 13, in San Francisco of coronary thrombosis.

Walter Herbert Taylor, Woodbridge, Ont., Canada; Trinity Medical College, Toronto, 1896; served during the World War; aged 68; died, January 10, in the Christie Street Hospital, Toronto.

John Clair Thompson ● Decatur, Ill.; Chicago College of Medicine and Surgery, 1916; served during the World War; aged 49; died, January 6, of dissecting aneurysm of the aorta and hypertension.

John R. Fairchild, Inez, Ky.; Louisville (Ky.) Medical College, 1892; also a minister; for many years county health officer; aged 75; died, January 19, of carcinoma of the liver and myocarditis.

William Lane Holmes, Victoria, B. C., Canada; Bellevue Hospital Medical College, New York, 1889; Victoria University Medical Department, Coburg, Ont., 1892; aged 83; died, Dec. 26, 1940.

James Judson Strickland, Birmingham, Ala.; Medical Department of Tulane University of Louisiana, New Orleans, 1904; aged 62; died, January 16, of cerebral hemorrhage and hypertension.

Thomas T. Mooney, Rochester, N. Y.; Queen's University Faculty of Medicine, Kingston, Ont., Canada, 1896; on the staff of St. Mary's Hospital; aged 66; died, January 14, of coronary thrombosis.

David Burford Stutsman ● St. Louis; St. Louis University School of Medicine, 1923; member of the American Urological Association; aged 45; died, January 6, of coronary thrombosis.

Benzion D. Resnick, Chicago; Loyola University School of Medicine, Chicago, 1919; on the staff of the Veterans Administration Facility, Hines; aged 55; died, January 12, of coronary thrombosis.

Overton H. Mennet, Los Angeles; Medical College of Ohio, Cincinnati, 1874; formerly a druggist; Civil War veteran; aged 90; died, January 25, of arteriosclerosis and auricular fibrillation.

Arthur S. Sturge, Houghton Lake, Mich.; Saginaw Valley Medical College, 1900; aged 75; died, January 23, in the University Hospital, Ann Arbor, of pneumonia and pulmonary abscesses.

Robert Louis Reber, St. Louis; St. Louis University School of Medicine, 1906; member of the Missouri State Medical Association; aged 65; died, January 20, of cerebral hemorrhage.

Roscoe C. Campbell, Los Angeles; University of Nebraska College of Medicine, Omaha, 1904; aged 60; died, Dec. 3, 1940, of hemopericardium due to rupture of the right auricle of the heart.

Archibald Carmichael, Granbury, Texas; University of Nashville (Tenn.) Medical Department, 1889; aged 81; died, Dec. 22, 1940, of tumor of the brain and cerebral hemorrhage.

Ernest Lloyd Garner, Vancouver, B. C., Canada; University of Toronto Faculty of Medicine, 1898; fellow of the American College of Surgeons; aged 65; died in December 1940.

Samuel Clyde McCorkle, West Allis, Wis.; Milwaukee Medical College, 1898; served during the World War; formerly health officer; aged 68; died, January 4, of cerebral hemorrhage.

James William Enright ✱ Rochester, N. Y.; Syracuse University College of Medicine, 1906; on the staff of St. Mary's Hospital; aged 67; died, January 16, in Fort Lauderdale, Fla.

Ralph Ernest Sawyer ✱ Buffalo, Wyo.; University of Nebraska College of Medicine, Omaha, 1927; county health officer; aged 39; died, January 3, of a bullet wound, self inflicted.

John M. Wallace, Fayetteville, Ark.; University of Tennessee Medical Department, Nashville, 1893; aged 74; died, January 15, of acute dilatation of the heart following pneumonia.

Ellis D. Whedbee, Louisville, Ky.; Howard University College of Medicine, Washington, D. C., 1892; aged 78; died, Dec. 4, 1940, in the Red Cross Hospital of gastric carcinoma.

Vincent Arthur McDonough, Toronto, Ont., Canada; University of Toronto Faculty of Medicine, 1911; aged 56; on the staff of St. Joseph's Hospital, where he died, Dec. 28, 1940.

Harry Edwin Dwire, Bucyrus, Ohio; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1895; served during the World War; aged 70; died, January 7, of pneumonia.

Joseph A. Wood, Pratt, W. Va.; Eclectic Medical Institute, Cincinnati, 1882; at one time mayor; aged 83; died, January 9, in the Laird Memorial Hospital, Montgomery, of uremia.

J. Frank Miller, Reisterstown, Md.; Atlantic Medical College, Baltimore, 1910; aged 61; died, January 19, of carcinoma of the head of the pancreas and obstructive jaundice.

Melvin W. Tinkham, Fort Wayne, Ind.; Fort Wayne College of Medicine, 1892; formerly police surgeon; aged 75; died, January 12, in Jacksonville, Fla., of pneumonia.

Samuel Forster ✱ New York; Columbia University College of Physicians and Surgeons, New York, 1907; served during the World War; aged 59; died, January 10.

Alfred Harrison Smink, Shamokin, Pa.; Jefferson Medical College of Philadelphia, 1894; formerly county medical director; aged 71; died, January 17, of cerebral hemorrhage.

Charles Ralston Yerwood, Austin, Texas; Meharry Medical College, Nashville, Tenn., 1907; aged 58; died, Dec. 19, 1940, in Fort Worth of fibroma of the spinal cord.

Clifton Wallace Culver, Buffalo; University of Buffalo School of Medicine, 1897; aged 74; died, Dec. 11, 1940, in Rochester of diabetes mellitus and arteriosclerosis.

George Nye Hiskey, Chicago; University of Illinois College of Medicine, Chicago, 1914; aged 51; died, January 12, of coronary thrombosis and arteriosclerosis.

William Powell, New Hartford, N. Y.; Long Island College Hospital, Brooklyn, 1881; aged 84; died, January 9, of cerebral hemorrhage and arteriosclerosis.

Joseph Smith, Toledo, Ohio; Toledo Medical College, 1898; aged 81; died, January 15, in the Mercy Hospital of injuries received when struck by an automobile.

Edward Henry Weis ✱ Chicago; University of Illinois College of Medicine, Chicago, 1935; aged 43; died in January of carcinoma of the submaxillary gland.

Edwin Otis Gable, Chicago; Washington University School of Medicine, St. Louis, 1903; aged 59; died, January 9, of myocarditis and fracture of the femur.

Abisha Gordon De Foe, Bruceton Mills, W. Va.; Louisville and Hospital Medical College, Louisville, Ky., 1908; aged 68; died, January 13, of pneumonia.

Harry Lee Cruttenden ✱ Cooperstown, N. Y.; New York University Medical College, 1898; aged 64; died, January 19, of arteriosclerosis and heart disease.

Joseph Thomas Ubold Renaud ✱ Chicago; University of Louisville (Ky.) Medical Department, 1905; aged 64; died, January 18, of coronary occlusion.

William Alexander Cluff, Saskatoon, Sask., Canada; Manitoba Medical College, Winnipeg, 1906; aged 68; died, Dec. 29, 1940, in Victoria, B. C.

William F. Mente, Cincinnati; Medical College of Ohio, Cincinnati, 1899; aged 71; died, January 3, of acute coronary disease and chronic myocarditis.

John A. Regner, Amery, Wis.; University of Minnesota College of Medicine and Surgery, Minneapolis, 1889; aged 85; died, January 17, of uremia.

C. S. Fair, Fort Wayne, Ind.; Fort Wayne College of Medicine, 1896; aged 66; died, January 16, of cardiovascular disease and arteriosclerosis.

Claude Ernest Taylor, Scranton, Pa.; Bellevue Hospital Medical College, New York, 1887; aged 79; died, January 18, of carcinoma of the colon.

Robert Houser, North Olmsted, Ohio; Cleveland-Pulte Medical College, Cleveland, 1913; aged 54; died, January 6, of carcinoma of the rectum.

Robert James Miller, Chicago; National Medical University, Chicago, 1906; aged 57; died, January 31, of lobar pneumonia and influenza.

John Rushton Fusselman, North Hollywood, Calif.; Rush Medical College, Chicago, 1881; aged 83; died, Dec. 28, 1940, of cerebral hemorrhage.

Alois John Willke, Cincinnati; Medical College of Ohio, Cincinnati, 1892; aged 76; died, January 27, of coronary thrombosis and hypertension.

Thomas C. Willson, Idaho Falls, Idaho; Joplin Medical College, Joplin, Mo., 1882; aged 77; died, Dec. 14, 1940, of coronary thrombosis.

Hector Clayton Hall, Fort Qu'Appelle, Sask., Canada; University of Toronto Faculty of Medicine, 1912; aged 50; died, Dec. 20, 1940.

Clara Sparks Robertson, West Elkton, Ohio; Cincinnati College of Medicine and Surgery, 1887; aged 86; died, January 15, of myocarditis.

John G. Wightman, Centerville, Md.; Jefferson Medical College of Philadelphia, 1882; aged 79; died, January 14, of lobar pneumonia.

Francis M. Hayes, Iota, La.; Detroit College of Medicine, 1899; aged 64; died, January 1, in a hospital at Crowley of lobar pneumonia.

Edwin T. Hosford, Alameda, Calif.; Keokuk (Iowa) Medical College, 1893; aged 72; died, Dec. 24, 1940, of influenza and pneumonia.

William E. Walsh, Auburn, N. Y.; Syracuse University College of Medicine, 1907; aged 62; died, January 23, of coronary embolism.

Robert R. Morgan, Boswell, Ind.; Medical College of Indiana, Indianapolis, 1897; aged 76; died, January 3, of Parkinson's disease.

Thomas Edward Case, Toronto, Ont., Canada; Victoria University Medical Department, Coburg, 1883; aged 85; died, Dec. 6, 1940.

David Morgan Woodward, Huntsville, Tenn.; Chattanooga Medical College, 1906; aged 72; died, Dec. 31, 1940, of cirrhosis of the liver.

Avis Elida Smith, Kansas City, Mo.; Woman's Medical College, Chicago, 1883; aged 89; died, January 10, of coronary thrombosis.

James E. Hadley, Cedar Bluffs, Neb.; Omaha Medical College, 1882; aged 80; died in December 1940 of arteriosclerosis.

Henry A. Smith, St. Louis; American Medical College, St. Louis, 1905; aged 83; died, January 10, of chronic myocarditis.

Henry C. Shelhorse, Greenville, Texas (licensed in Texas under the Act of 1907); aged 71; died, January 21, of myocarditis.

Patrick Francis Coady, Newton, Mass.; Halifax Medical College, Halifax, N. S., Canada, 1893; aged 80; died, Dec. 19, 1940.

Augustus Holderfield, Man, W. Va.; University of Louisville (Ky.) Medical Department, 1917; aged 59; died, Dec. 4, 1940.

Edward Cecil Burson, Toronto, Ont., Canada; University of Toronto Faculty of Medicine, 1904; aged 61; died, Dec. 10, 1940.

George Henry Moser, Arcola, Ill.; Homeopathic Medical College of Missouri, St. Louis, 1890; aged 81; died in January.

John Francis Sullivan, Boston; Harvard Medical School, Boston, 1895; aged 72; died, Dec. 14, 1940, of pneumonia.

Charles Russell Bittner, Hooversville, Pa.; Eclectic Medical Institute, Cincinnati, 1899; aged 70; died, January 11.

Arnold E. Erling, Milwaukee (licensed in Wisconsin in 1899); aged 71; died, Dec. 29, 1940, of chronic nephritis.

Owen C. Elliott, Elm Mott, Texas (licensed in Texas under the Act of 1907); aged 86; died, January 2.

A. H. Stephens, Casa, Ark. (licensed in Arkansas in 1903); aged 70; died, Dec. 12, 1940.

Bureau of Investigation

CEASE AND DESIST ORDERS

Abstracts of Certain Federal Trade Commission Releases

The work of the Federal Trade Commission, in helping to protect the public against misrepresentation or fraud in the medical as well as other fields, has been greatly extended by the provisions of the Wheeler-Lea Amendment to the Federal Trade Commission Act. The Food, Drug and Cosmetic Act of 1938 added to the Food and Drug Administration's control of the advertising claims and statements made on the labels of medicines or on the carton or in the accompanying leaflet, whereas what might be termed collateral advertising, that which appears in newspapers and magazines and over the air, comes more actively under the purview of the Federal Trade Commission, by virtue of the Wheeler-Lea Amendment.

THE JOURNAL has at various times commented on the activities of the Federal Trade Commission in this connection, even before the Wheeler-Lea Amendment gave it its added rights. In some cases the Commission may accept from the person or concern involved a stipulation that the objectionable practices or claims cited will be discontinued. In other cases the Commission issues what is known as a Cease and Desist Order, in which the individual, manufacturer or distributor cited is ordered to cease and desist from practices which have been declared objectionable.

Abstracts of some of the orders issued during 1940 follow:

Ave Maria Products.—These are put out by one Fred C. Mattia, doing business as the Premier Color Works and as the Mattia and Briganti Company, New York. On Jan. 4, 1940, the Federal Trade Commission ordered Mattia to cease representing that his products, "Ave Maria," "Ave Maria Effervescent Preparation" and "Ave Maria Laxative Preparation," are "Made in U. S. A. from a highly recommended formula of Dr. Arnaldo Piutti," referred to as "Director of the Pharmaceutical Institute of 'Reggio Universita di Napoli' (Italy)." Mattia also was ordered to cease representing, through the use of medals or any other decoration shown on his packages, that his products have been awarded any medals, prizes or other recognitions of merit by any exposition until this is true.

Buford & Owens Preparations.—Various products are put out by an Oklahoma City concern run by George and Gussie Buford and Mary Owens Boone Wellingham, under the misleading name "Buford and Owens College." On Feb. 28, 1940, the Federal Trade Commission ordered these persons to cease advertising that their "Buford and Owens Hair Oil," "Buford and Owens Pressing Oil," "Buford and Owens Special Oil" and "Buford and Owens Shampoo" are cures or remedies for dandruff, falling hair or scalp diseases or will promote hair growth or prevent hair from falling out, and to discontinue using the word "college" as part of the corporate name or representing that the respondents conduct an institution of higher learning.

Crazy Mineral Water, Crazy Water Crystals and Crazy Fiz.—These are put out by the Crazy Water Company, Mineral Wells, Texas. On Dec. 21, 1940, the Federal Trade Commission ordered this concern and four of its executives, Carr P. Collins, chairman of the board, H. H. Collins, president, W. M. Woodall, secretary, and J. A. Pondrom, treasurer, to cease and desist from certain misrepresentations in the advertising of the products named. Among these were that these preparations "are a cure or remedy for certain diseases or symptoms of diseases of the alimentary tract and certain conditions involving the urinary tract, kidneys and gall duct, or constitute an effective treatment therefor in excess of the extent to which the product, by temporarily relieving constipation and gastric acidity, may be beneficial in treating such disorders when constipation and gastric acidity are contributing factors; and that such diseases or symptoms are necessarily caused by, or associated with, or that the respondents' products are a competent treatment for, constipation, faulty elimination, or excess gastric acidity. The Commission also directed the respondents to cease representing that such products possess any therapeutic properties beyond those of a cathartic or laxative and an antacid with a tendency temporarily to neutralize excess gastric acidity; or are a cure, remedy for, or possess any beneficial therapeutic properties in the treatment of, urticaria, cirrhosis of the liver, chronic metritis, parametric exudations; diabetes mellitus, gravel and calculous concretion in the bladder and gall duct; fevers, toxic conditions, typhoid, influenza, anaphylaxis, nephritis, pyelitis, catarrhal jaundice, cholecystitis, Bright's disease, kidney trouble, obesity, irregularities of the liver, gall duct and bladder, rheumatism, arthritis, neuritis, high blood pressure, acidosis, lumbago, gout, poisonous system, affected vision, colds, scarlet fever, aching joints, and numbness of limbs, and that these ailments and conditions are caused by, or generally associated with, excess gastric acidity or constipation." An article on Crazy Crystals appeared in THE JOURNAL March 11, 1933, page 760. The summary of this pointed out that a $1.50 package of Crazy Crystals could accomplish nothing that could not be effected equally well with a few cents worth of Glauber's salt. Crazy Mineral Water was the subject of actions under the old Pure Food and Drugs Act of 1906 in no fewer than seventeen cases between April 1913 and October 1928. Fourteen of these involved not simple misbranding but adulteration, charging that the specimens seized contained filthy, decomposed and putrid substances. The last three cases charged misbranding because of the false and fraudulent curative claims on the bottle labels—claims that might have led the public to believe that Crazy Water was curative in rheumatism, functional stomach diseases, cystitis, diabetes, Bright's disease and some other things. One of these latest three cases was reported in THE JOURNAL, July 28, 1928, page 266.

Curl-O-Wave.—On Feb. 27, 1940, the Federal Trade Commission ordered the Curl-O-Wave Company of Chicago to cease and desist from representing that "Curl-O-Wave" will make the straightest hair naturally curly, transform obstinate hair into dainty curls and improve the texture of the hair, and that their product is odorless, beneficial to the hair and not an ordinary hair curling fluid but a new discovery. The Commission charged that the product would not accomplish the results claimed and that it is not a new discovery but an ordinary curling fluid.

Correspondence

EARLY HISTORY OF ANESTHESIOLOGY

To the Editor:—A few men are still living who gave anesthetics in the late years of the nineteenth century. I know some personally, among them Dr. Ferguson, living in South Orange, N. J., approaching his ninetieth year; others are out of my sight but in my heart. To bring both the living, our Silver Greys, and the dead who were the pioneers into the ken of that ever increasing host which is the American Society of Anesthetists, Inc., has become my task at the direction of the parent society. Of the three societies which were organized long ago, the London one was absorbed by the British Medical Association, the Scottish one is still active and the American is—well it is growing. But now what of earlier times and the men into whose labors we have entered? If you are an ancestor or an early son please write to me to set the records correctly; and will any one who knows about the days of the nineties or earlier cooperate in writing this history for the boys who will follow us.

A. FREDERICK ERDMANN, M.D., Lisbon, N. H.
Historian, American Society of Anesthetists, Inc.

ORAL SURGERY

To the Editor:—In the January 4 issue of THE JOURNAL, Francis P. McCarthy, in an article entitled "A Clinical and Pathologic Study of Oral Disease," detracts from an otherwise splendid and valuable presentation by including the following statement: "The oral cavity has always been a 'no man's land' as far as any group of physicians or dentists can claim a special knowledge of the multitude of lesions found in this domain."

The oral cavity may be a "no man's land" from the standpoint of the general medical and dental practitioner, because neither gets sufficient training along this line in medical or dental school, each school apparently expecting the other to take care of this situation.

There is a specialty, however, which covers the field of diseases of the oral cavity and associated parts in as competent a manner, generally speaking, as any other specialty of medicine covers its field. It has had a national organization for almost twenty-five years. I refer to the specialty of oral surgery.

The oral surgeon may have both medical and dental degrees but, if he does not have the medical degree he, if competent, has pursued postgraduate studies covering all phases of medicine that may have relation to the mouth, including focal infection and the oral manifestations of systemic disease.

Medical publications have a paucity of articles on oral surgery because medical organizations have not, in the past, thought the mouth to be of sufficient importance to invite oral surgeons to read papers. The preponderance, therefore, of oral surgery articles will be found in the dental literature.

EARLE H. THOMAS, M.D., D.D.S., Chicago.

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NATIONAL BOARD OF MEDICAL EXAMINERS

EXAMINING BOARDS IN SPECIALTIES

Examinations of the National Board of Medical Examiners and Examining Boards in Specialties were published in THE JOURNAL, March 22, page 1317.

BOARDS OF MEDICAL EXAMINERS

ALABAMA: Montgomery, June 17-19. Sec., Dr. J. N. Baker, 519 Dexter Ave., Montgomery.

ARKANSAS: * *Medical.* Little Rock, June 5-6. Sec., Dr. D. L. Owens, Harrison. *Eclectic.* Little Rock, June 5-6. Sec., Dr. Clarence H. Young, 1415 Main St., Little Rock.

CALIFORNIA: *Oral examination* (required when reciprocity application is based on a state certificate or license issued ten or more years before filing application in California), San Francisco, April 16. *Written.* San Francisco, June 30-July 3. Sec., Dr. Charles B. Pinkham, 1020 N St., Sacramento.

DELAWARE: July 8-10. Sec., Medical Council of Delaware, Dr. Joseph S. McDaniel, 229 S. State St., Dover.

DISTRICT OF COLUMBIA: * Washington, May 12-13. Sec., Commission on Licensure, Dr. George C. Ruhland, 203 District Bldg., Washington.

FLORIDA:* Jacksonville, June 23-24. Sec., Dr. William M. Rowlett, Box 786, Tampa.

GEORGIA: Atlanta, June. Sec., State Examining Boards, Mr. R. C. Coleman, 111 State Capitol, Atlanta.

HAWAII: Honolulu, July 14-17. Sec., Dr. James A. Morgan, 48 Young Bldg., Honolulu.

IDAHO: Boise, April 1. Dir., Bureau of Occupational License, Mr. H. B. Whittlesey, 333 State Capitol Bldg., Boise.

ILLINOIS: Chicago, April 1-3. Superintendent of Registration, Department of Registration and Education, Mr. Lucien A. File, Springfield.

INDIANA: Indianapolis, June 17-19. Sec., Board of Medical Registration and Examination, Dr. J. W. Bowers, Citizens Trust Bldg., Fort Wayne.

KANSAS: Kansas City, June 17-18. Sec., Board of Medical Registration and Examination, Dr. J. F. Hassig, 903 N. 7th St., Kansas City.

KENTUCKY: Louisville, June 5-7. Sec., State Board of Health, Dr. A. T. McCormack, 620 S. Third St., Louisville.

MARYLAND: *Medical.* Baltimore, June 17-20. Sec., Dr. John T. O'Meara, 1215 Cathedral St., Baltimore. *Homeopathic.* Baltimore, June 17-18. Sec., Dr. John A. Evans, 612 W. 40th St., Baltimore.

MICHIGAN: * Ann Arbor and Detroit, June 11-13. Sec., Board of Registration in Medicine, Dr. J. Earl McIntyre, 202-4 Hollister Bldg., Lansing.

MINNESOTA: Minneapolis, April 15-17. Sec., Dr. Julian F. Du Bois, 350 St. Peter St., St. Paul.

MISSISSIPPI: Jackson, June. Asst. Sec., State Board of Health, Dr. R. N. Whitfield, Jackson.

MONTANA: *Reciprocity.* Helena, March 31. *Written.* Helena, April 1. Sec., Dr. S. A. Cooney, 216 Power Block, Helena.

NEBRASKA:* Omaha, June 12. *All applications must be on file not later than May 29.* Dir., Mrs. Jeanette Crawford, 1009 State Capitol Bldg., Lincoln.

NEVADA: Carson City, May 5. Sec., Dr. Fred M. Anderson, 215 N. Carson St., Carson City.

NEW JERSEY: Trenton, June 17-18. Sec., Dr. Earl S. Hallinger, 28 W. State St., Trenton.

NEW MEXICO: Santa Fe, April 14-15. Sec., Dr. Le Grand Ward, 133 Sena Plaza, Santa Fe.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 23-26. Chief, Bureau of Professional Examinations, 315 Education Bldg., Albany.

NORTH CAROLINA: Raleigh, June 16-20. Sec., Dr. W. D. James, Hamlet.

NORTH DAKOTA: Grand Forks, July 1-4. Sec., Dr. G. M. Williamson, 4½ S. Third St., Grand Forks.

OHIO: Columbus, April 1. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus.

OKLAHOMA:* Oklahoma City, June 11-12. Sec., Dr. James D. Osborn Jr., Frederick.

OREGON: Portland, April 3. Exec. Sec., Miss Lorienne M. Conlee, 608 Failing Bldg., Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July. Act. Sec., Bureau of Professional Licensing, Department of Public Instruction, Mrs. Marguerite G. Steiner, 358 Education Bldg., Harrisburg.

SOUTH DAKOTA:* Pierre, July 15-16. Dir., Medical Licensure, Dr. J. F. D. Cook, State Board of Health, Pierre.

VERMONT: Burlington, June 17-19. Sec., Dr. F. J. Lawliss, Richford.

VIRGINIA: Richmond, June 17-20. Sec., Dr. J. W. Preston, 30½ Franklin Road, Roanoke.

WISCONSIN:* Milwaukee, June 24-27. Sec., Dr. H. W. Shutter, 425 E. Wisconsin Ave., Milwaukee.

WYOMING: Cheyenne, June 2-3. Sec., Dr. M. C. Keith, Capitol Bldg., Cheyenne.

* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

CONNECTICUT: June 14. Address State Board of Healing Arts, 1945 Yale Station, New Haven.

DISTRICT OF COLUMBIA: Washington, April 21-22. Sec., Commission on Licensure, Dr. George C. Ruhland, 203 District Bldg., Washington.

FLORIDA: De Land, June 7. *Applications must be on file not later than May 24.* Sec., Prof. J. F. Conn, John B. Stetson University, De Land.

IOWA: Des Moines, April 8. Dir., Division of Licensure and Registration, State Department of Health, Mr. H. W. Grefe, Capitol Bldg., Des Moines.

MINNESOTA: Minneapolis, April 1-2. Sec., Dr. J. Charnley McKinley, 126 Millard Hall, University of Minnesota, Minneapolis.

NEBRASKA: Omaha, May 6-7. Dir., Mrs. Jeanette Crawford, 1009 State Capitol Bldg., Lincoln.

OKLAHOMA: Oklahoma City, May 22. Sec. of State, Hon. C. C. Childress, State Capitol, Oklahoma City.

OREGON: Corvallis, July 12. Sec., State Board of Higher Education, Mr. Charles D. Byrne, University of Oregon, Eugene.

RHODE ISLAND: Providence, April 3-4. Sec., Division of Examiners, Rev. Nicholas H. Serror, Providence College, Providence.

SOUTH DAKOTA: June. Sec., Dr. G. M. Evans, Yankton.

WISCONSIN: Madison, April 5. Sec., Prof. Robert N. Bauer, 3414 W. Wisconsin Avenue, Milwaukee.

Kansas December Report

Dr. J. F. Hassig, secretary, Kansas State Board of Medical Registration and Examination, reports the written examination for medical licensure held at Topeka, Dec. 10, 1940. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Twelve candidates were examined, all of whom passed. Six physicians were licensed to practice medicine by reciprocity. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
Northwestern University Medical School (1940) 85.5, 94.2		(1936)	81.6
University of Illinois College of Medicine		(1940)	85.9
University of Minnesota Medical School		(1934)	88.6
Creighton University School of Medicine (1940) 85.5, 85.8		(1939)	88.6
University of Nebraska College of Medicine		(1931)	89.5
Columbia University College of Physicians and Surgeons		(1938)	84.6
University of Wisconsin Medical School		(1938)	84.1
University of Toronto Faculty of Medicine		(1939)	82.8

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Colorado School of Medicine		(1938)	Colorado
St. Louis University School of Medicine		(1938)	Missouri
Western Reserve Univ. School of Medicine		(1938), (1939)	Ohio
University of Tennessee College of Medicine		(1937)	Tennessee
Wisconsin College of Physicians and Surgeons		(1912)	Missouri

Missouri October Report

Dr. Harry F. Parker, secretary, State Board of Health of Missouri, reports the written examination for medical licensure held at Kansas City, Oct. 29-31, 1940. Eighteen candidates were examined, all of whom passed. Thirty-one physicians were licensed to practice medicine by reciprocity and 4 physicians so licensed by endorsement. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
University of Arkansas School of Medicine		(1939)	87.3
Loyola University School of Medicine		(1940)*	81.5
Northwestern University Medical School		(1940) 85.8,† 86.9, 87	
Rush Medical College		(1940)	89.4
University of Minnesota Medical School		(1940)	86
St. Louis University School of Medicine		(1937) 85, (1940)	87.8
Washington University School of Medicine		(1940)	90.3
New York University College of Medicine		(1940)	87.6
Hahnemann Med. College and Hospital of Philadelphia		(1940) 82.2, 86.4	
University of Wisconsin Medical School		(1939)	85.7
Queen's University Faculty of Medicine		(1939)	85.6
Regia Universita di Napoli Facolta di Medicina e Chirurgia		(1933)	82.4
University of Moscow Faculty of Medicine		(1916)	77.1
Universitat Bern Medizinische Fakultat		(1939)	87.6‡

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Arkansas School of Medicine		(1938), (1939, 2)	Arkansas
Stanford University School of Medicine		(1929)	Illinois
Loyola University School of Medicine		(1939)	Illinois
University of Illinois College of Medicine		(1935), (1939)	Illinois
Indiana University School of Medicine		(1939)	Indiana
University of Kansas School of Medicine (1938), (1940) Kansas		(1936), (1937),	
University of Louisville School of Medicine		(1937)	Kentucky
Louisiana State University School of Medicine		(1940)	Louisiana
University of Michigan Medical School		(1938)	Michigan
Creighton University School of Medicine		(1939)	Kansas
Long Island College of Medicine		(1937)	New York
Univ. of Rochester School of Medicine and Dentistry		(1932)	California
Meharry Medical College		(1939, 7)	Tennessee
University of Tennessee College of Medicine		(1938, 2)	Tennessee
University of Wisconsin Medical School		(1933)	Wisconsin
Medizinische Fakultat der Universitat Wien		(1934)	New York
Thüringische Landesuniversitat Medizinische Fakultat, Jena		(1917)	Wisconsin
Licentiate of the Royal College of Physicians and Member of the Royal College of Surgeons, London		(1925)	Illinois

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
Harvard Medical School		(1934)	N. B. M. Ex.
University of Minnesota Medical School		(1938)	N. B. M. Ex.
St. Louis University School of Medicine		(1939, 2)	N. B. M. Ex.

* This applicant has completed four years' medical work and will receive the M.D. degree on completion of internship. License has not been issued.

† This applicant has received the M.B. degree and will receive the M.D. degree on completion of internship. License has not been issued.

‡ License has not been issued.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Optometry Practice Acts: Right of Licensed Physician to Issuance of License to Practice Optometry Without Examination.—The plaintiff, a physician, was licensed to practice medicine in Colorado in 1914 and had engaged in the practice of that profession from that time until 1936, specializing in diseases of the eye. From 1936 to 1939 he practiced "as an optometrist" in the employ of laymen. In 1939 he was notified by the state board of medical examiners that such practice was illegal. He then applied to the defendant, the state board of optometric examiners, for a certificate of competency to practice optometry. The optometry practice act in force in 1914, enacted in 1913, provided that it did not apply to physicians lawfully entitled to practice medicine in the state, and the same provision was retained in the new act enacted in 1925. The 1925 act further provided that persons licensed under the 1913 act were entitled to be licensed under the 1925 act without taking an examination, but that "every optometrist licensed or entitled to practice optometry *hereunder* who desires to continue in the practice of optometry in this State" must renew his license within thirty days after the act became effective and annually thereafter. On the refusal of the state board of optometric examiners to issue to him the requested certificate of competency to practice optometry, the plaintiff filed a petition in the district court, city and county of Denver, for a writ of mandamus to compel the defendant to do so. From an adverse ruling of the court, the board appealed to the Supreme Court of Colorado.

The board contended that the plaintiff was not entitled to a certificate of competency to practice optometry without first passing an examination therefor. It reasoned that the plaintiff was licensed under the 1913 act; that he had not applied for a renewal of his license within thirty days after the 1925 act became effective; that his license therefore became automatically canceled, and that he could reestablish it only by taking an examination. The plaintiff contended that he was not required to take an examination under either act because of his being a regularly licensed physician. It was undisputed that the practice of optometry is but one branch of the practice of medicine and that a license to practice medicine therefore also covers the practice of optometry. But, under the rule in *People* v. *Painless Parker Dentist*, 85 Colo. 304, 275 P. 928, a physician cannot practice generally as the employee of a layman, whereas an optometrist may do so by reason of section 20 of the 1925 optometry practice act. If the practice of optometry under a layman is excluded from the ban of the *Painless Parker* case, the fact that the practitioner is a licensed physician will not raise the ban against him. For purposes of argument the Supreme Court assumed, as did counsel for both parties, that in order to practice optometry as the employee of laymen the plaintiff was required to have an optometrist's license. The court then pointed out that the 1925 optometry practice act only requires an examination of all persons "except as herein otherwise provided," and expressly exempts physicians. Furthermore, continued the court, the "renewal" provision in that act applied only to those licensed under the 1913 optometry practice act, and the plaintiff, being a physician licensed under the medical practice act, was not licensed under that optometry practice act. The court concluded, therefore, that the plaintiff was entitled either to practice optometry as the employee of laymen by virtue of his physician's license or, by virtue of that license, to obtain a license to practice optometry without an examination on the payment of the statutory fee. Accordingly, the judgment of the lower court ordering the board to issue to the plaintiff a certificate of competency to practice optometry was affirmed.—*Bebber et al. v. Fisher, 102 P. (2d) 741 (Colo., 1940).*

Society Proceedings

COMING MEETINGS

Alabama, Medical Association of the State of, Mobile, Apr. 15-17. Dr. D. L. Cannon, 519 Dexter Ave., Montgomery, Secretary.

American Association for the Study of Neoplastic Diseases, Washington, D. C., Apr. 3-5. Dr. Eugene R. Whitmore, 2139 Wyoming Ave., N.W., Washington, D. C., Secretary.

American Association of Anatomists, Chicago, Apr. 9-11. Dr. E. R. Clark, Dept. of Anatomy, University of Pennsylvania School of Medicine, Philadelphia, Secretary.

American Association of Pathologists and Bacteriologists, New York, Apr. 10-11. Dr. Howard T. Karsner, 2085 Adelbert Road, Cleveland, Secretary.

American Association of the History of Medicine, Atlantic City, N. J., May 4-6. Dr. Henry E. Sigerist, 1900 East Monument St., Baltimore, Secretary.

American College of Physicians, Boston, Apr. 21-25. Mr. E. R. Loveland, 4200 Pine St., Philadelphia, Executive Secretary.

American Dermatological Association, New Orleans, Apr. 7-11. Dr. Harry R. Foerster, 208 East Wisconsin Ave., Milwaukee, Secretary.

American Gastro-Enterological Association, Atlantic City, N. J., May 5-6. Dr. Thomas T. Mackie, 16 East 90th St., New York, Secretary.

American Physiological Society, Chicago, Apr. 16-19. Dr. Philip Bard, 710 North Washington St., Baltimore, Secretary.

American Psychiatric Association, Richmond, Va., May 5-9. Dr. Arthur H. Ruggles, 305 Blackstone Blvd., Providence, R. I., Secretary.

American Society for Clinical Investigation, Atlantic City, N. J., May 5. Dr. Eugene M. Landis, University of Virginia Hospital, Charlottesville, Va., Secretary.

American Society for Experimental Pathology, Chicago, Apr. 15-18. Dr. Harry P. Smith, Dept. of Pathology, University of Iowa, Iowa City, Secretary.

American Society for Pharmacology and Experimental Therapeutics, Chicago, Apr. 15-19. Dr. G. Philip Grabfield, 319 Longwood Ave., Boston, Secretary.

American Society of Biological Chemists, Chicago, Apr. 15-19. Dr. C. G. King, Dept. of Chemistry, University of Pittsburgh, Pittsburgh, Secretary.

American Surgical Association, White Sulphur Springs, W. Va., Apr. 28-30. Dr. Charles G. Mixter, 319 Longwood Ave., Boston, Secretary.

American Urological Association, Colorado Springs, Colo., May 19-22. Dr. Clyde L. Deming, 789 Howard Ave., New Haven, Conn., Secretary.

Arizona State Medical Association, Phoenix, Apr. 16-19. Dr. W. Warner Watkins, 15 East Monroe St., Phoenix, Secretary.

Arkansas Medical Society, Little Rock, Apr. 14-16. Dr. William R. Brooksher, 602 Garrison Ave., Fort Smith, Secretary.

Association for the Study of Internal Secretions, Atlantic City, N. J., May 2-3. Dr. E. Kost Shelton, 921 Westwood Blvd., Los Angeles, Secretary.

Association of American Physicians, Atlantic City, N. J., May 6-7. Dr. Hugh J. Morgan, Vanderbilt University Hospital, Nashville, Tenn., Secretary.

California Medical Association, Del Monte, May 5-8. Dr. George H. Kress, 450 Sutter St., San Francisco, Secretary.

Connecticut State Medical Society, Bridgeport, May 21-22. Dr. Creighton Barker, 258 Church St., New Haven, Secretary.

Federation of American Societies for Experimental Biology, Chicago, Apr. 15-19. Dr. D. R. Hooker, 19 West Chase St., Baltimore, Secretary.

Florida Medical Association, Jacksonville, Apr. 28-30. Dr. Shaler Richardson, P. O. Box 1018, Jacksonville, Secretary.

Georgia, Medical Association of, Macon, May 13-16. Dr. Edgar D. Shanks, 478 Peachtree St., N.E., Atlanta, Secretary.

Illinois State Medical Society, Chicago, May 20-23. Dr. Harold M. Camp, 224 South Main St., Monmouth, Secretary.

Iowa State Medical Society, Davenport, May 14-16. Dr. R. L. Parker, 3510 Sixth Ave., Des Moines, Secretary.

Kansas Medical Society, Topeka, May 13-15. Mr. C. G. Munns, 112 West Sixth St., Topeka, Executive Secretary.

Louisiana State Medical Society, Shreveport, Apr. 21-23. Dr. P. T. Talbot, 1430 Tulane Ave., New Orleans, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, Apr. 22-23. Dr. Richard T. Shackelford, 1211 Cathedral St., Baltimore, Secretary.

Massachusetts Medical Society, Boston, May 21-22. Dr. Robert N. Nye, 8 Fenway, Boston, Secretary.

Mississippi State Medical Association, Biloxi, May 13-15. Dr. T. M. Dye, Box 295, Clarksdale, Secretary.

Missouri State Medical Association, St. Louis, Apr. 28-30. Mr. E. H. Bartelsmeyer, 634 North Grand Blvd., St. Louis, Executive Secretary.

National Gastroenterological Association, New York, May 13-16. Dr. G. Randolph Manning, Room 319, 1819 Broadway, New York, Secretary.

National Tuberculosis Association, San Antonio, Tex., May 5-8. Dr. Charles J. Hatfield, 1790 Broadway, New York, Secretary.

Nebraska State Medical Association, Lincoln, May 5-8. Dr. R. B. Adams, 416 Federal Securities Bldg., Lincoln, Secretary.

New Hampshire Medical Society, Manchester, May 13-14. Dr. Carleton R. Metcalf, 5 South State St., Concord, Secretary.

New Jersey, Medical Society of, Atlantic City, May 20-22. Dr. Alfred Stahl, 55 Lincoln Park, Newark, Secretary.

New York, Medical Society of the State of, Buffalo, Apr. 28-May 1. Dr. Peter Irving, 292 Madison Ave., New York, Secretary.

New York State Association of Public Health Laboratories, Syracuse, May 19. Miss Mary B. Kirkbride, New Scotland Ave., Albany, Secretary.

North Carolina, Medical Society of the State of, Pinehurst, May 19-21. Dr. I. H. Manning, Chapel Hill, Secretary.

North Dakota State Medical Association, Grand Forks, May 19-21. Dr. L. W. Larson, 221 Fifth St., Bismarck, Secretary.

Northern Tri-State Medical Association, Tiffin, Ohio, Apr. 8. Dr. E. Benjamin Gillette, 320 Michigan St., Toledo, Ohio, Secretary.

Oklahoma State Medical Association, Oklahoma City, May 19-22. Dr. L. S. Willour, 210 Plaza Court Bldg., Oklahoma City, Secretary.
Philippine Medical Association, Manila, Apr. 22-26. Dr. Candido M. Africa, 547 Herran St., Manila, Secretary.
Post Graduate Institute of the Philadelphia County Medical Society, Philadelphia, Mar. 31-Apr. 4. Dr. Rufus S. Reeves, 301 South 21st St., Philadelphia, Director.
Society for the Study of Asthma and Allied Condition, Atlantic City, N. J., May 3. Dr. W. C. Spain, 116 East 53d St., New York, Secretary.
South Carolina Medical Association, Greenville, Apr. 15-17. Dr. Julian P. Price, 105 West Cheves St., Florence, Secretary.
South Dakota State Medical Association, Mitchell, May 18-20. Dr. Clarence E. Sherwood, 107½ Egan Ave., Madison, Secretary.
Tennessee State Medical Association, Nashville, Apr. 8-10. Dr. H. H. Shoulders, 706 Church St., Nashville, Secretary.
Texas, State Medical Association of, Fort Worth, May 12-15. Dr. Holman Taylor, 1404 West El Paso St., Fort Worth, Secretary.
West Virginia State Medical Association, Charleston, May 12-14. Mr. Joe W. Savage, Public Library Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1931 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Review of Tuberculosis, New York

43:1-150 (Jan.) 1941

Epidemiology of Tuberculosis: Principles of Programs of Tuberculosis Associations. E. S. Godfrey Jr., Albany, N. Y.—p. 1.
*Chronic Cor Pulmonale: Its Relation to Pulmonary Tuberculosis. L. V. Ackerman and K. Kasuga, San Francisco.—p. 11.
Treatment of Tuberculosis and Diabetes: Ten Year Experience. R. M. McKean, G. C. Thosteson and N. Brooks, Detroit.—p. 31.
Primary Tuberculosis in Adolescents and Young Adults. H. L. Israel and E. R. Long, Philadelphia.—p. 42.
*Continuous Arrest of Lung Movement: Treatment of Pulmonary Tuberculosis in Equalizing Alternating Pressure Chamber. A. L. Barach, New York.—p. 56.
Alternating Equalizing Pressure Chamber and Control Pressure Panel: Its Technical Description and Operation. A. L. Barach, with technical assistance of M. Eckman, New York.—p. 91.
Tuberculin Testing in Chicago Schools: Tuberculin Tests on 167,345 Children with X-Ray Films of 27,401 Tuberculin Reactors. F. Tice, Chicago.—p. 96.
Miniature X-Ray Film of Chest. B. H. Douglas and C. C. Birkelo, Detroit.—p. 108.
Acute Silicosis: Occurring in Employees of Abrasive Soap Powder Industries. R. J. Ritterhoff, Cincinnati.—p. 117.
Education of the Tuberculous Patient: From the Point of View of the Social Worker. Adele Shiman Trobe, New York.—p. 132.

Chronic Cor Pulmonale.—Ackerman and Kasuga believe that consideration of chronic cor pulmonale or hypertrophy of the right side of the heart, with or without failure, has been neglected. Chronic cor pulmonale may be primary or secondary. The secondary type is more common and is caused by any condition resulting in failure of the left side which by further back pressure also involves the right side. The primary type may be due to changes in the vascular arterial system of the lung or to widespread alterations in the pulmonary parenchyma and the thoracic cage. The causes of primary chronic cor pulmonale due to changes in the pulmonary parenchyma include bronchiectasis, silicosis, bronchogenic carcinoma or any disease which by its widespread involvement and its chronicity compresses enough of the pulmonary arterial bed to cause the condition. Diagnosis of the primary type in its relation to tuberculosis depends on the demonstration of enlargement of the pulmonary artery and the right ventricle. The authors conclude that: 1. The incidence of hypertrophy of the right side of the heart with marked failure is low in uncomplicated pulmonary tuberculosis. 2. Hypertrophy of the right side without failure occurs in about 6 per cent of all patients dying of pulmonary tuberculosis. (This varies with the type of patient.) 3. In several types, hypertrophy of the right side with or without failure tends to develop. These include cases of chronic productive tuberculosis of long duration with secondary emphysema (common), chronic productive miliary tuberculosis (rare) and pulmonary lesions complicated by silicosis or anthracosilicosis. Pneumothorax of long duration with marked collapse and thickened pleura at times causes cardiac hypertrophy of the right side. Thoracoplasty may cause this hypertrophy. The existence of chronic cor pulmonale should be considered before collapse therapy is instituted. Pleural adhesions are not important in the pathogenesis of cor pulmonale. 4. If cardiac and pulmonary diseases, which cause pulmonary hypertension, are coexistent failure of the right side of the heart will appear early. 5. The changes in the pulmonary arterial tree are usually degenerative and rarely hyperplastic. 6. The cause of occasional cardiac hypertrophy of the left side associated with pulmonary disease which should cause only hypertrophy of the right side remains unexplained.

Continuous Arrest of Lung Movement.—Barach describes the treatment of 5 patients with pulmonary tuberculosis in whom collapse measures were contraindicated. The method adds to general body rest a new type of local rest of the lung in which excursion of the lung margins is not appreciable. It requires the patients' complete cooperation and a special apparatus. It is free from the risk and the complications of collapse therapy and is feasible when pneumothorax cannot be used. The apparatus is called an equalizing alternating pressure chamber with an inner box. By equalizing the pressures on the inner and outer sides of the chest, as well as on the upper and lower surface of the diaphragm, it was possible to pass air in and out of the lungs without discernible movements of the costal margins or the diaphragm. For from two to four months 4 patients showed a consistent response to equalizing pressure therapy, marked decrease in cough and sputum, fall in sedimentation rate and temperature to normal, definite clearing of shadows on roentgen study (including cavities), marked gain in weight and subjective improvement, well being and loss of malaise. Improvement of the first, partially treated, patient was less marked; the large walled off cavities persisted, and subsequent attempts at collapse were unsuccessful. In the second patient an extensive tuberculous process resolved; this was characterized by honeycombing in both lungs and a persistently negative sputum for more than one year. The patient is now engaged in part time work which requires mild physical activity. In the third patient unmistakable progressive improvement followed the first course of equalizing pressure therapy, with clearing of dense inflammatory exudate and cavities of considerable size in both lungs. However, five months after treatment a small residual cavity in the left upper lobe enlarged and after five months of subsequent bed rest was more than double its former size. A second course of equalizing pressure resulted in abrupt shrinking, which has continued to the present time. The fourth patient, with rapidly advancing tuberculosis and high intermittent fever, showed clinical improvement during the first month of equalizing pressure treatment. This included decided retrogression of lesions in the right lung. A subsequent tuberculous pneumonia resulted in extension of the disease and ultimate death. The fifth patient, a man with a known tuberculous cavity for ten years, experienced clinical and roentgen improvement. The sputum and gastric lavage have been negative for two months after discharge. The author attributes the gain in weight to the lack of work on the part of the respiratory musculature and the special body rest and relaxation which cessation of voluntary respiration and residence in the equalizing chamber engendered. The response of the patients suggests that immobilization of the lung with complete body rest aids tuberculous resolution. Since the 5 patients who received treatment had advanced tuberculosis that did not respond to bed rest, the author believes that the suggested procedure may be justifiably tried in cases of less severe involvement. Subsequent treatment must still utilize the known valuable measures.

Annals of Surgery, Philadelphia

113:1-160 (Jan.) 1941

Surgical Treatment of Intractable Ulcerative Colitis. J. H. Garlock, New York.—p. 2.
*Acute Diverticulitis and Sigmoiditis. C. Eggers, New York.—p. 15.
Lymphogranuloma Venereum. W. H. Barber and W. B. Murphy, New York.—p. 30.
Gastric Secretory Depressant in Extracts of Achlorhydric Carcinomatous Stomachs. A. Brunschwig, T. H. Clarke, J. van Prohaska and R. Schmitz, Chicago.—p. 41.
Surgical Emergencies During Childhood Caused by Meckel's Diverticulum. L. Chaffin, Los Angeles.—p. 47.
Acute Thrombocytopenic Purpura Haemorrhagica Associated with Tuberculosis (Miliary) of Spleen: Splenectomy—Recovery. J. J. Weiner and R. F. Carter, New York.—p. 57.
*Use of Ergotoxine and Ergotamine in Surgical Management of Thyrotoxicosis. D. E. Brace and L. C. Reid, New York.—p. 62.
Coexisting Carcinomas of Thyroid and Aberrant Thyroid with Regional Metastases. A. S. W. Touroff, New York.—p. 73.
Papillary Adenoma of Aberrant Thyroid. M. K. Smith, New York.—p. 77.
Substernal Thyroid. W. B. Parsons, New York.—p. 82.
Osteoplastic Neurolysis Operation for Cure of Meralgia Paresthetica. C. Lee, Baltimore.—p. 85.
Extraskeletal Ossifying Tumors. H. Wilson, Memphis, Tenn.—p. 95.
Treatment of Staphylococcic Cavernous Sinus Thrombophlebitis with Heparin and Chemotherapy. C. Lyons, Boston.—p. 113.
Intranasal Granuloma of Sporothrix Type Producing Marked Nasal Deformity. Marie Ortmayer and Eleanor M. Humphreys, Chicago.—p. 118.
Varicocele and Its Treatment. H. L. Skinner, Baltimore.—p. 123.
*Indelible Pencil Injuries to Hands. M. L. Mason and H. S. Allen, Chicago.—p. 131.
Amebiasis Cutis. T. E. Wyatt and R. R. Buchholz, Nashville, Tenn.—p. 140.

Acute Diverticulitis and Sigmoiditis.—Eggers discusses acute diverticulitis and sigmoiditis observed among 65 private and 17 ward patients. All but 3 of the patients, who already had had a colostomy, were seen as primary cases during the acute stage. In 1 of them an acute attack of diverticulitis had developed in the remaining segment of sigmoid and required drainage, 1 was admitted with thoracic empyema and pyonephrosis eighteen years after the sigmoid resection and 1 wished to have the colostomy closed. Most of the patients recovered under conservative management, some, admitted as surgical emergencies, had to be operated on at once and others were operated on for relief of symptoms or to rule out a malignant condition. Many have had no subsequent serious symptoms, while others have been seen several times with recurrent attacks. Forty-six of the patients had no complications and were treated conservatively. After the acute symptoms subsided they were instructed in the pathologic changes underlying their complaints. They were also made familiar with the measures calculated to avoid recurrence—daily evacuation, restriction of food with much residue and avoidance of overeating. That these measures have some success is apparent, as most of the patients have remained free from recurrence. However, several recurrences have shown that there is no positive safeguard against acute inflammation in diverticulosis. The condition must be considered serious, and one must be prepared at any time for a recurrence or a complication requiring surgical intervention. Despite definite instruction, 2 patients failed to apply for treatment promptly on return of symptoms and were finally admitted with a neglected abscess from which they died. Some type of surgical intervention was indicated or imperative for the remaining 36 patients; in 2 operation was not carried out; 1 had an associated carcinoma and refused operation, and 1 had general peritonitis with multiple abscesses and was practically moribund when admitted and died within twenty-four hours. Of the thirty-four operations twelve were done because of acute perforations with peritonitis. Only 4 of these patients recovered completely. Six died at the hospital and 2 recovered temporarily and died later of complications or sequelae. One of these had an associated carcinoma. Among 7 cases of acute perforations with an abscess there were 5 recoveries and 2 deaths. In 1 of these neglected cases the abscess dissected retroperitoneally in spite of drainage and pointed in the opposite groin. There were fifteen operations for obstruction, persistent symptoms, tumor or because of a suspected carcinoma. The simplest operation was an exploratory celiotomy in 3 cases and combined with separation of adhesions in 4 others. Of eight resections, two were performed for carcinoma, two for a painful recurrent mass with inflammation or suppuration in the wall and four because the lesion suggested carcinoma. All the patients recovered from the operation. The patients with carcinoma have since died, but those with benign lesions remain well. Among the 34 patients the total immediate mortality was 23.5 per cent restricted entirely to acute perforations. There were in addition 2 late deaths from complications and 4 deaths due to carcinoma. One patient died of carcinoma and 1 of peritonitis without operation. This makes a mortality rate of 19.5 per cent, or 16 among the 82 patients, which may be attributed directly to diverticulitis or one of its complications or associated conditions. If the 5 carcinoma cases are excluded, the death rate is 13.4 per cent with or without operation.

Ergotoxine and Ergotamine in Thyrotoxicosis.—Brace and Reid report studies on the ergotoxine-ergotamine—epinephrine relationship. The most distressing phenomenon in the surgical management of thyrotoxicosis is tachycardia. In an effort to minimize this reaction the authors evolved the following rationale, which led to the use of ergotoxine and ergotamine. There are two periods in the surgical treatment of thyrotoxicosis during which tachycardia becomes an alarming manifestation: during operation and from twenty-four to seventy-two hours postoperatively—the period of so-called crises. The tachycardia occurring during operation would seem best explained by an increased output of epinephrine as a result of the subjective sensations of anxiety, fear and the like and those objective considerations of trauma, blood loss, anoxia and so on. This excess would have the most pronounced effect on cardiac rate because thyroxine specifically potentiates the action of epinephrine on the specific tissue or the myocardium. The tachycardia occurring during the crises might be explained on the basis of a thyroxine effect because of its operative release from twenty-four to seventy-two hours previously and the potentiation of a relatively normal epinephrine production. Therefore in the operative reaction epinephrine is a major factor and thyroxine a minor one, while in the crises thyroxine is the major factor and epinephrine the minor one. Accordingly, the authors find that operative tachycardia is susceptible of more efficient control by ergotoxine and ergotamine than that of the postoperative period. In their cases ergotoxine and ergotamine had no effect on the anoxic tachycardia, illustrating the necessity for a supplemental oxygen supply in postoperative cases of thyrotoxicosis. They have obtained a favorable response in all of their 15 cases.

Indelible Pencil Injuries to Hands.—Mason and Allen present 2 cases of injuries from indelible lead pencils, 1 of the index finger and 1 of the palm with injury to the tendon sheath. The dye of indelible pencils is increasingly toxic with its increasing alkalinity; in order of its increasing toxicity it is green, yellow, red, brown, blue, violet and black. The difference in toxicity is only one of degree, as all cause chemical necrosis. It seems that they produce a disturbance in cellular metabolism, owing to the chemical affinity of the alkaline dye for nucleic acids in the nuclei of the cells. When introduced into the tissues the dye at once begins to dissolve and leads to a necrosis of the adjacent cells. When blood vessels are subjected to a high concentration of the dye they become totally necrotic and thrombosed. This thrombosis and associated secondary infection may aid in producing extensive necrosis, which may involve whole digits or phalanges. When the dye is diluted beyond the point of toxicity, has been altered by local metabolism or has been carried away by the blood and lymph, the process comes to a standstill, the protective wall of leukocytes (that are no longer pushed onward) liquefies and the necrotic central mass is cast off, leaving an ulcer which heals slowly by granulation. Superficial areas may separate and heal spontaneously in five or six weeks. If the dye has penetrated deeply, months or even years may elapse. The clinical manifestations of indelible wounds of the hand may be minimal. At the time of the injury there is some pain for an hour or so, and along with it there is edema of the surrounding tissues. As the dye becomes more widely diffused the reaction becomes more marked; the pain may recur and may radiate distally or peripherally. The puncture wound con-

tinues for a long time to secrete a purple fluid. If the fistulous tract is incised and an attempt is made to remove the lead, the incision refuses to heal and an ulcer with a violet base and borders results. If the penetration has been deep the puncture wound heals and a tumor-like mass develops which, if incised, leaves a purple ulcer that persists for weeks or months before healing. General symptoms are not always present, but headache, malaise, anorexia, gastrointestinal upsets and general weakness are frequent complaints. These symptoms do not often come on until several weeks after the injury. In the authors' second case anorexia, weakness, lassitude and a brief postoperative febrile reaction seemed due to toxemia from the dye rather than to a concurrent local infection. The toxic symptoms did not develop until seven weeks after the injury, and the anorexia and lassitude persisted for several weeks after the local process subsided. The treatment of indelible pencil injuries is complete, immediate excision of all stained tissue. If this is effected at once the wound may be sutured with the assurance that primary healing will ensue. The "lead" should never be picked out with forceps. This breaks it up and scatters bits of the dye throughout the tissues. In the late case, when bones, tendons and other essential structures are involved, complete excision may be impossible although indicated. In such instances the wound is left open and allowed to heal by granulation. Complete excision and primary closure were accomplished as late as two and one half months after the injury to the authors' first patient. At times the necrotizing action may be so severe and extensive that amputation is necessary. The dye is slowly excreted by the kidneys, but gastrointestinal symptoms and an occasional instance of icterus seem to indicate that the liver must also play a part in its excretion. Therefore it seems logical to administer dextrose and to prescribe a liberal carbohydrate diet.

Indiana State Medical Assn. Journal, Indianapolis

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Promin for Acute Infections.—Toomey and Roach used promin [a sodium salt of p, pi-diaminodiphenyl-sulfone-N, N'-di (dextrose sulfonate)] intravenously in the treatment of 154 patients who had a variety of streptococcic infections. All the patients regardless of age or sex received 5 Gm. of the drug three times a day for three days. Some of the infections treated were erysipelas, complications of scarlet fever, infections of the upper part of the respiratory tract and bronchial or lobar pneumonia. Excluding the 10 patients who were not very ill on admission, 84 per cent of the remaining 144 obtained immeasurable improvement from the drug. Momentary nausea was experienced by 20 per cent of the patients while the drug was still being injected. If the administration was prolonged over ten minutes, the percentage became distinctly smaller. Only an occasional patient vomited at the time of injection, and when vomiting did occur the authors felt that it happened because the drug was injected too rapidly. The immediate nausea and vomiting is not to be confused with that occurring later. Complications were rash in 3, cyanosis in 3, nausea in 3, vomiting in 3, nausea and vomiting in 2 and headache in 2. The rashes were maculopapular scarlatiniform lesions, sparse in number but generally distributed. Almost every patient had slight cyanosis, but it was not remarkable except of those mentioned. Ten of the patients died; the deaths were expected despite the use of drugs. The authors state that, grain for grain, they found promin to be less toxic than sulfanilamide. Patients seemed to tolerate it better than either sulfanilamide or sulfapyridine. It did not destroy hemoglobin or erythrocytes in the recommended dosage when injected intravenously. When it was used in the presence of erythrocytes in the urine caused by some infection, it did not aggravate the condition. Its disadvantage is that it has to be injected intravenously, its advantage that it does not seem to produce urinary crystals or concretions. Promin has been given simultaneously with sulfapyridine or sulfanilamide with no apparent synergistic reactions.

Treatment of Exophthalmic Goiter in Children.—Nixon believes that subtotal thyroidectomy for exophthalmic goiter is not desirable in children if it is at all possible to treat the condition conservatively. In the adult the occasional postoperative myxedema can be controlled by adequate medication with desiccated thyroid, but in the child the relationship of the thyroid to other endocrine glands and the all-important part it plays in the normal processes of mental and physical growth make its removal undesirable. The hyperthyroid child should first be given a carefully planned and executed medical regimen. Mental and complete physical rest is as important for the child as for the adult. It may be necessary to remove the child temporarily from his home and family. A convalescent or boarding home where the rest regimen can be continued is preferable to the hospital. Psychotherapeutic measures and an individualized approach are important. Acute symptoms may subside only with the disappearance of the inciting infection. Abscessed teeth, infected tonsils and other foci should be removed but not until the child has shown considerable improvement. Various gland preparations have been recommended, but their efficacy in children has not been proved. Small doses of iodine can lower the increased metabolic rate with a corresponding gain in weight and improvement in general condition. One should advise thyroidectomy at the proper time if the patient's response is not optimal. It is not required in mild cases, and in moderate and severe cases it should be postponed until one is certain that the patient will not improve without it. Iodine reduces the oxygen requirements of the tissues many times to a normal level, so that the demand for thyroid hormone is decreased. The percentage of cases treated by iodine alone is increasing, suggesting that a greater effort should be made to treat the disease medically. If in spite of perseverance and patience in carrying out the conservative treatment the disease progresses, subtotal thyroidectomy will alleviate the toxic symptoms in most instances. Prolonged rest and medical care, usually with temporary iodine administration, are necessary even after operation. The tendency to residual and recurrent thyrotoxicosis is greater in children than in adults, and therefore a generous subtotal thyroidectomy is usually performed. To prevent a disturbance of the parathyroids, at least a portion of the posterior surface of both lobes must remain. While the immediate effect of subtotal thyroidectomy on the hyperthyroid symptoms is beneficial, in many instances it is difficult to predict changes in the future development of the child. Only after carefully controlled cases are observed for many years following thyroidectomy and irradiation will satisfactory answers be had to these and many other questions concerning this problem.

Pick's Syndrome and Hypoproteinemia.—Stadler and Stinger studied the origin of the hepatic involvement in an ultimately fatal case of Pick's disease. The child, a boy of 13, absorbed, retained and catabolized protein yet was not able to maintain plasma albumin at its normal level even though ample building components were available. Hepatic function tests on a large intake of protein showed the total cholesterol to be 170 mg., free cholesterol 39.8 mg. and cholesterol esters 130.2 mg. per hundred cubic centimeters of blood. The blood prothrombin was 73 per cent of normal. The galactose tolerance showed 1.056 Gm. of galactose in a four hour urine specimen following the administration of 40 Gm. of the sugar. The bromsulphalein test showed slight retention of the dye in a two hour period. While the patient suffered frequent gastrointestinal upsets, apparently because of decreased gastric capacity and duodenal ulcer, his daily protein intake was approximately 50 to 75 Gm. It appeared that a nutritional disturbance could not have been the major factor. An attempt to demonstrate proteolytic enzymes in the blood failed; a mixture of a specimen of the patient's plasma with that containing normal protein level showed no appreciable protein changes before and after forty-eight hours of incubation. The authors believed that suppression of plasma protein formation was the result of hepatic disease. The backing up of a column of blood to the liver from the heart occasions an amount of hepatic damage which is irreparable in that one vital function, which was for the most part destroyed. The child was unable to elaborate plasma albumin. The rate of formation of other plasma proteins and other hepatic function tests appeared to be normal. It was only comparatively late in the course of the disease that the marked increase in serum phosphatase concentration in the plasma and the depression of prothrombin indicated that other activities were being placed in jeopardy. The last fibrinogen determination of the plasma was normal. The depressed serum calcium accompanied the depressed blood proteins, but the patient at no time manifested any sign of tetany, indicating that the serum calcium was largely in the ionized form and the decrease was almost entirely in the calcium bound to protein. The carbon dioxide combining power of the blood, which was slightly toward the acid side, may have also been operative in preventing tetany. The disturbance in the serum albumin level brought about by pseudocirrhosis is comparable, if not identical, with idiopathic hypoproteinemia including generalized edema without demonstrable cause, since at necropsy of such patients minimal hepatic changes described as interstitial hepatitis are found. The data from the patient support the view that the edema resulting in this type of disease did not differ from that due to hypoproteinemia of starvation or excessive protein loss, and that hypoproteinemia in the absence of albuminuria or protein starvation should be regarded as presumptive evidence of hepatic failure. Since in this patient the formation of serum albumin was markedly affected, while other hepatic functions were maintained at nearly normal levels, it appears that the formation of serum albumin is one function of the liver most likely to be damaged by chronic passive congestion of the liver.

Calcification of Arteries of Infant.—Baggenstoss and Keith present an analysis of 9 reported cases of extensive arterial calcification in infants and cite a case of their own. Their patient was an infant of 8 weeks with extensively calcified arteries and calcium deposits in the heart and kidneys. The calcium was deposited mainly in the inner half of the media and was particularly prominent in the arteries of the heart, mesentery, periadrenal tissue and kidneys. The calcification of the media was accompanied by marked intimal proliferation. The cause of the calcification is unknown, but the most likely possibilities are (1) an abnormality in the arterial wall and other tissues owing to infection or incomplete development, (2) a severe disturbance in calcium metabolism produced by overdosage of vitamin D (such cases have been reported by Pulschar and by Thatcher) and (3) a combination of these two possibilities. The data from the reported cases show all the patients to be young (from 2 days to 2¼ years). This suggests that the arterial lesions may have been congenital. Infection was present in 4 of the cases (congenital syphilis in 1). Renal disease was described as having been present in 4. The inner portion of the media was the site of predilection for the calcium deposition. In 4 of the reported cases and in the authors' patient, calcium deposits were present in various organs as well as in the blood vessels.

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Insulin Shock Therapy in Older Patient with Schizophrenia or Schizophrenic-like Reaction. G. W. Robinson Jr., Kansas City, Mo.—p. 177.

Alzheimer's Disease.—Ferraro and Jervis report 2 cases in which the histories coincided in all clinical details but age (33 and 38 years of age respectively). The mental reaction in both cases was organic in type and its course was progressive and rapid. Speech defects, aphasia, anisocoria, overactivity of deep reflexes, muscular hypertonicity and involuntary movements were present. General convulsions completed the clinical picture. The classic pathologic picture of the disease was present in all its features in both cases. The literature discloses 5 similar cases and 3 doubtful ones in which all the details but age of onset were those of Alzheimer's disease. All these cases have been included in the juvenile type of Alzheimer's disease. To the authors this term appears hardly justified. In only 1 of these instances did the symptoms occur during the juvenile period. Although the pathologic changes were those of Alzheimer's disease, the uncharacteristic mental picture, the absence of cortical focal signs and the long remission make the classification of this case as Alzheimer's disease doubtful. With this exception, all the other cases reported in the literature occurred between the twenty-fifth and the fortieth year. The term "adult type" appears more appropriate. If a borderline period of a few years is set aside between adulthood and the onset of the presenium, generally considered at 45 years, cases that develop after 40 would be considered presenile, those that develop during the third and fourth decade adult, and those before the third decade juvenile. This last type is not yet justified by actual clinicopathologic material. The subdivision is of far-reaching importance in studying the etiology of the disease. According to Braunmühl, aging of the brain is essentially a manifestation of primary changes of the unstable brain colloids from a highly dispersed to a less dispersed condition, eventually resulting in condensation and coagulation. The process syneresis is highly characteristic of the aging of any colloidal system. On the basis of this theory it is conceivable that syneretic mechanisms operative during physiologic aging may act at an earlier age and with particular intensity on colloidal, constitutionally predisposed, systems. In the authors' first case, constitutional familial factors can be surmised as two siblings were mentally affected. Additional factors are likely to play a part in early colloidal changes. Among others are vascular mechanisms. In cases of widespread cerebral arteriosclerosis extreme cortical atrophy may be found, caused by diffuse interference with the blood supply of the cortex. Morphologic changes of the cerebral blood vessels are usually absent in Alzheimer's disease, but it can be conceived that transitory impairment of the cerebral circulation due to vasomotor disturbances may have some bearing in the interplay of various factors bringing about the pathologic changes. A better knowledge of the nature of both presenile and adult types of Alzheimer's disease may be expected from the study of the causes and the mechanism of the physicochemical alterations occurring in the aging brain.

Tennessee State Medical Assn. Journal, Nashville

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Problems Related to Care of Epilepsy and Convulsive States, with Particular Reference to Nursing Aspects. O. A. Turner, New Haven, Conn.—p. 323.
Influence of Estrous Cycle and Decidual Reaction on Transplanted Intrauterine Tumors in Mice. B. V. Hall, Urbana, Ill.—p. 333.
Sulfapyridine and Vomiting: Experimental Study of the Mechanism in the Dog. J. F. Sadusk Jr., J. W. Hirshfeld and Anne Seymour, New Haven, Conn.—p. 351.
Prevention of Cancer. E. Pólya, Budapest, Hungary.—p. 363.
Studies on Incidence and Development of Tumor 15091a in Susceptible and Resistant Strains of Mice. H. Bunting, L. L. Waters and H. W. Ryder, New Haven, Conn.—p. 387.
Some Aspects of Normal Personality Experiencing Disease. E. Kahn, New Haven, Conn.—p. 397.
Thermostability of Staphylococcus Toxins. G. H. Smith, New Haven, Conn.—p. 409.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Dermatology and Syphilis, London

52:353-386 (Dec.) 1940

Treatment of Pruritus Vulvae, Leukoplakia and Kraurosis. Agnes Savill.—p. 353.
Erythema Nuchae. F. R. Bettley.—p. 363.

British Medical Journal, London

2:855-890 (Dec. 21) 1940

Hospital Infection of War Wounds. A. A. Miles, Herta Schwabacher, A. C. Cunliffe, J. P. Ross, E. T. C. Spooner, R. S. Pilcher and Joyce Wright.—p. 855.
*Cerebrospinal Meningitis: Use of Sulfonamide Derivatives in Prophylaxis. R. W. Fairbrother.—p. 859.
Analysis of Hemorrhagic States with Snake Venom and Lecithin. L. J. Witts and Felicity C. G. Hobson.—p. 862.
*Polycythemia and Vitamin C. J. Deeny.—p. 864.
Solitary Nonparasitic Cyst of Liver: Report of Case. R. Maingot.—p. 867.

Cerebrospinal Meningitis and Sulfonamide Derivatives in Prophylaxis.—Fairbrother analyzes the 51 cases of cerebrospinal meningitis encountered in various parts of the East and West Lancashire areas of the Western Command. The symptoms of the disease have varied. The diagnosis was confirmed by examining the cerebrospinal fluid. Treatment usually consisted of early large doses of sulfanilamide or sulfapyridine. As much as 10 Gm. a day was used during the first few days. Soluble sulfapyridine was used for fulminating cases or for cases in which the diagnosis had been delayed. The mortality rate has been less than 5 per cent and sequelae slight. The spread of the meningococcus in the community is by droplet infection. Poor ventilation and overcrowding undoubtedly play an important part in its dissemination. Several of the 51 cases were associated with serious overcrowding, yet a second case of cerebrospinal meningitis did not develop, even though often such cases had not been isolated for some twenty-four hours after the onset of the disease. A carrier rate of 21 per cent was found among the patients of the hospital; these were living under ideal conditions, with good ventilation and no overcrowding, the distance between adjacent beds being at least 4 feet. Fatigue has been repeatedly found to be a contributing factor in the development of the disease. The outstanding success of treatment has directed attention to the value of the drugs in the treatment of carriers. Only from 1 of 139 persons receiving intensive chemotherapy was a meningococcus isolated, in contrast to 55 of 289 not treated with sulfanilamide compounds. Of 14 patients who recovered from cerebrospinal meningitis and were examined from seventeen to seventy-six days after the onset of symptoms, meningococci were not isolated in any instance. This observation, while of little value in itself, supports the view that intensive treatment with drugs of the sulfonamide series satisfactorily removes meningococci from the nasopharyngeal mucosa. An attempt was next made to obtain more direct evidence of the value of sulfapyridine in eliminating meningococci from the nasopharyngeal mucosa from persons harboring the meningococcus. They were segregated and given 4 Gm. of sulfapyridine on the first and second days and 3 Gm. on the third and fourth days. Nasopharyngeal swabs were collected before and after such treatment. After treatment none of 13 carriers harbored the organism. These figures, although small, further support the view that adequate treatment with sulfapyridine or allied drugs clears the nasopharyngeal mucosa of meningococci. In many instances the cultures prepared before chemotherapy gave an almost pure growth of the meningococcus. Sulfonamide drugs for the treatment of carriers are likely to have only a limited application; their wholesale administration is impossible. However, when carriers are identified the drugs should prove of great value. Other methods of treating carriers have proved unreliable.

Polycythemia and Vitamin C.—Deeny investigated the relation of vitamin C to polycythemia in 2 cases by determining the daily excretion of the vitamin in the urine before and after vitamin C saturation alone and with sodium bicarbonate. The vitamin by itself had little effect on the condition, but in conjunction with sodium bicarbonate it caused an improvement in the general health and a marked fall in the erythrocyte count. In 1 case it rose after the experiment was concluded, but it fell again when vitamin C and sodium bicarbonate were readministered. A marked diuresis occurred after giving vitamin C and sodium bicarbonate. The method merits more extensive trial in the treatment of polycythemia. It would appear that vitamin C has some influence in regulating the number of erythrocytes in the circulation and that in polycythemia there is a defect in the metabolism of vitamin C. Both subjects had a definite polycythemia and excreted considerable amounts of vitamin C. They were deficient in the latter, as they did not excrete 40 per cent of the test dose (300 mg.) for several days. Neither was affected by the large doses, but when the threshold of excretion was raised by the sodium bicarbonate there was a fall in the erythrocyte count. There was a definite improvement in the patients' general condition. A fall in the blood pressure of both patients coincided with a fall in the erythrocyte count. Neither the blood fragility nor the blood uric acid varied with the fall in the erythrocytes.

Journal Obst. & Gynaec. of Brit. Empire, Manchester

47:597-716 (Dec.) 1940

Pathology of Heart Disease in Pregnancy. H. L. Sheehan and A. M. Sutherland.—p. 597.
Granulosa Cell Tumor of Ovary with Remarkable Hyperplasia of Uterus. P. M. G. Russell.—p. 669.
Unilateral Twin Tubal Pregnancy with Coincident Intrauterine Pregnancy. O. Browne.—p. 673.

Journal of Physiology, Cambridge

99:1-156 (Dec.) 1940. **Partial Index**

Influence of Diets Low in Magnesium on Chemical Composition of Incisor Tooth of Rat. J. Duckworth and W. Godden.—p. 1.
Influence of Diets Low in Magnesium on Histologic Appearance of Incisor Tooth of Rat. J. T. Irving.—p. 8.
Influence of Dietary Calcium and Phosphorus on Tooth Formation. W. E. Gaunt and J. T. Irving.—p. 18.
Action of Bee Venom, Cobra Venom and Lysolecithin on Adrenal Medulla. W. Feldberg.—p. 104.
Effects of Vasodilator and Vasoconstrictor Substances on Normal and Denervated Spleens. J. G. Stephens.—p. 127.
Relation Between Ureter, Venous and Arterial Pressures in Isolated Kidney of Dog. M. Grace Eggleton, J. R. Pappenheimer and F. R. Winton.—p. 135.
Experimental Cerebral Concussion. D. Denny-Brown and W. R. Russell.—p. 153.
Influence of Composition of Gastric Content on Effect of Histamine. C. L. G. Pratt.—p. 154.
Influence of Histamine on Absorption of Sodium Sulfate by Stomach. N. B. Myant.—p. 156.

Lancet, London

1:1-32 (Jan. 4) 1941

Medical Service in Industry. D. Hunter.—p. 1.
A Wartime Pharmacopeia. M. H. Pappworth.—p. 3.
Paraffinoma of Peritoneum. A. H. Cruickshank.—p. 4.
Species of Mosquito Infesting Deep Shelters in London. P. G. Shute.—p. 6.
Actinomycosis of Central Nervous System: Report of Two Cases. N. L. Eckhoff.—p. 7.
Auditory Apparatus and Aviation. E. Wodak.—p. 8.
Standard Pattern for Hip Spica. W. S. Creer.—p. 9.
Pellagra Following Chronic Alcoholism. E. Davis and E. Hinden.—p. 10.
Etiology of Erythema Nodosum: Note. A. L. Punch.—p. 10.
Diet of Anemic Women. N. U. Khan.—p. 11.
*Convulsion Therapy Without Convulsions. G. C. Young.—p. 12.

Convulsion Therapy Without Convulsions.—Young reports the case of a woman given subconvulsive doses of metrazol, after which no fits appeared but the patient made a good recovery. She was admitted to the hospital in an acutely confused, destructive and restless state with vivid auditory and visual hallucinations. The restlessness necessitated full sedative treatment, which had to be continued in bed. There was no sign of improvement after five weeks. After three subconvulsive treatments with metrazol, mental improvement began. Treatment was stopped three weeks after its inception, and three weeks later the patient was normal and had full insight. Her condition has never regressed. As there was regression in the interval between injections in the early days of treatment the evidence seems to be that the beneficial results were produced by the drug.

Presse Médicale, Paris

48:969-992 (Dec. 4-7) 1940

*Active Congestion in Pathogenic Mechanism of Tuberculous Hemoptysis. F. Bezançon.—p. 969.
Mixed Tumors of Parotid Gland. J.-L. Roux-Berger.—p. 971.
*Tuberculins, Anaphylaxis and Koch's Phenomenon. A. Besredka.—p. 973.

Pathogenic Mechanism in Tuberculous Hemoptysis.—Bezançon does not believe that the pathogenesis of tuberculous hemorrhages of the lung is fully explained by assuming vascular ulceration or diapedetic erythrosis. He thinks that disturbances of the sympathetic nervous system, shown in experimental investigations to be capable of producing visceral infarcts, can also elicit in the lung, perifocally or at some distance, a state of active congestion, a vasodilatation that leads to hemoptysic manifestations. The causative agent of this vasodilatation is histamine, producible in the lungs as well as in the skin. Vasodilative processes were observed either parallel with new vascular growths in the fibrous wall of the cavity or, more remotely, in the disease-free parenchyma. He himself found no vascular lesions in the wall of the lung cavity and calls attention to the fact that benign hemoptysis occurs in cases in which no tuberculous cavity exists and the tuberculous process resembles nothing more serious than an unimportant sclerosis. A special roentgen study made of the granite-like appearance of the morbid processes in the lung of hemoptysic persons disclosed its presence only after the hemorrhage and showed an uneventful evolution. This granite-like appearance is ascribed by the author to the sudden onset of neurovegetative imbalance. Rasmussen's aneurysm, at one time pathogenically exploited for tuberculous hemoptysis, was encountered on infrequent occasions by a number of clinical observers.

Tuberculins, Anaphylaxis and Koch's Phenomenon.—Besredka elaborates the view that tuberculin and anaphylactic reactions are similar in nature. The similarity between the anaphylactic reactions elicited in sensitized guinea pigs and those obtained in tuberculous guinea pigs injected with tuberculin is not affected by the violence of the reaction observed in ordinary procedures. For when anaphylactic reactions are provoked in sensitized rabbits intradermally or intramuscularly, no such intensity occurs but the same cutaneous lesions will appear as in Koch's phenomenon. That experimental animals cannot be directly sensitized by tuberculin is no argument against the anaphylactic nature of the tuberculin reactions. Specificity is a significant characteristic of both reactions. The immunity against tuberculin reactions, rapidly induced and of relatively short duration, is paralleled in guinea pigs sensitized to horse serum. Antianaphylactic immunity or serum tolerance is not due to the presence of antibodies but to a mechanism connected with desensitization that is wholly tissular, residing in the skin. The serum of guinea pigs sensitized to tuberculin injected into tuberculous noninoculated guinea pigs disclosed no cutaneous modifications. In no case were transmissible antibodies found in the blood. Similarly the serum of guinea pigs sensitized to horse serum injected into a new batch of guinea pigs was unable to induce an anaphylactic reaction when these were reinjected, thus indicating that sensitized guinea pigs were incapable of transmitting antibodies. Koch's phenomenon is interpreted by the author in keeping with the anaphylactic conception of the tuberculin reaction. By making the tuberculin reaction purely an anaphylactic reaction, the author takes it out of the allergies and gives it a place among other biologic phenomena.

Schweizerische medicinische Wochenschrift, Basel

70:1117-1136 (Nov. 23) 1940

Influence of One-Sided Nutrition on Mineral Content of Animal Organism. H. Kapp.—p. 1117.
Influence of Topographic-Anatomic Relations of Antrum Pylori, Pylorus and Duodenum on Their Roentgenogram in Different Exposures. E. Walder.—p. 1123.
*Wound Edge Excision According to Friedrich. M. Saegesser.—p. 1128.
Focal Infection and Neurosyphilis. O. Meyer.—p. 1129.
Clinical Critical Evaluation of New Synthetic Phosphorus Preparation as General Tonic. A. Alder.—p. 1130.

Wound Edge Excision According to Friedrich.—Saegesser, an assistant of Heller, who in turn studied wound therapy under Friedrich, discusses Friedrich's original paper on the subject. He finds that Friedrich did not employ the term "excision of wound edge" but used the term "freshening of wounds." Friedrich observed that guinea pigs in which triceps wounds had been infected with anaerobic material survived when the wounds were completely excised within the first six hours. This process was designated by Friedrich as "freshening"; it was a sac-like excision of the entire wound. Saegesser points out that in the accidentally produced wounds in human subjects a complete sac-like excision is only rarely possible. The excision of human wounds is usually only partial, not continuous and sac-like as in the experiments. This verification would be of no significance were it not for the fact that the "wound edge excision according to Friedrich" is often thought to produce sterile wound conditions, permitting a primary closure of the wound, as far as the six hour interval is taken into account. Friedrich was under the influence of Schimmelbusch's investigations on anthrax infection. These gave the impression that, in view of the rapid absorption of bacteria from fresh wounds, local methods usually come too late and are powerless against infection. Friedrich pointed out that the results of Schimmelbusch's experiments were not borne out by experience, and he decided to investigate how long wound infection remains a local process. He found bacteria in the more proximal portions of the muscle only from the eighth hour on in all but one of the cases. This period Friedrich designated as the germination time of the infectious material. He found that by freshening the wound region from 1 to 2 mm. into the healthy tissue in the course of the first six hours the animals could be protected against general infection with malignant edema. Friedrich himself is partly responsible for the misinterpretation of the six hour interval, because in his concluding sentences he applied the results of his experiments on the incubation period of anaerobic infections to every type of wound infection. Saegesser emphasizes that the six hour limit is of no practical significance in the surgical treatment of wounds. Nobody refrains from the removal of soiled necrotic tissues just because the wound is more than six or eight hours old. Moreover, although for induced anaerobic infections the incubation period was from six to eight hours, for the coccic infections it is usually much longer. Friedrich never recommended primary wound suture explicitly. It can be implied from his report only that excision within six hours had the primary suture as its aim. The incorrect evaluation of the six hour interval is partly due to the fact that some are under the impression that primary suture is the aim of the surgical treatment of wounds. This is not the case; the purpose of the initial surgical care of a wound is not primary closure but the reduction of infection. Saegesser concludes that, although Friedrich's six hour limit is of no practical importance in the care of accidental wounds, his work was of lasting value in that he substituted surgical treatment of wounds for the then customary conservative treatment by means of wound antiseptics. Another service he had rendered was to stress the importance of leaving wounds open in the case of suspected infection.

Zeitschrift für Urologie, Leipzig

34:461-504 (No. 10) 1940

Treatment of Chronically Contracted Bladder, Dysmenorrhea and Pains in Pelvis. B. von Mezö.—p. 461.
*Uremic Acidosis and Its Treatment with Sodium Thiosulfate. N. Vondra and J. M. von Rudina.—p. 468.
Solitary Renal Cysts. A. Schmidt.—p. 476.
Multiple Urethral Calculi. Junker.—p. 494.
Lumbosacral Renal Dystopia. H. Waschulewski.—p. 498.
Ulcerous Ureteritis of Right Side in Cavernous Renal Tuberculosis. Cremer.—p. 500.

Uremic Acidosis and Treatment with Sodium Thiosulfate.—Clinical observations on urologic disorders convinced Vondra and von Rudina that the degree of acidosis and the resistance of the organism depend on the site of the disease (extrarenal or intrarenal) and, when the kidney is diseased, on the severity and duration of the disorder. Acidosis is slight and the prognosis favorable if the increase in the rest nitrogen and the acidosis are caused by some extrarenal cause. In this connection the authors mention cases of hypochloremic uremias in which the disease was elicited by severe loss of fluid (vomiting and diarrhea). All cases of this type were cured within a few days; that is, the organism was able to eliminate the toxic

waste products as soon as the lost fluid was replaced. This is impossible in the presence of a severe renal lesion. After citing a case history illustrating this, the authors point out that death followed in all (except one) of the uremic patients in whom the reserve alkali value was below 30 per cent by volume. Realizing the important role of acidosis in uremia, the authors studied the behavior of acidosis during uremia that develops in surgical disorders. They made serial determinations of the reserve alkali according to the van Slyke method in 24 cases. They also determined the reduction in the freezing point of the blood, the rest nitrogen, the chloride value of the blood and the xanthoprotein reaction. They then discuss the prognostic significance of the changes in the alkali reserve and of relation of these changes to the other values. They present the theoretic justification for the use of sodium thiosulfate in the treatment of uremic acidosis and show that the results at least partly realize the theoretic conceptions. A 10 per cent solution of sodium thiosulfate was administered daily in quantities of from 20 to 60 cc. Of 7 patients with a moderately severe form of acidosis, 3 were cured in from four to six days; that is, the nitrogen rest as well as the alkali reserve were normalized within this period. In 2 others a permanent improvement was obtained, whereas the other 2 patients died after a slight symptomatic improvement. The thiosulfate was administered also to 5 patients with severe acidosis. The symptoms as well as the blood values showed a temporary improvement, but since the renal tissues were almost completely destroyed in these patients they died. In all the mild cases vomiting, nausea and singultus often decreased after the injection of 20 cc. of the solution, and at the end of three days it had ceased in all cases.

Taiwan Igakkai Zassi, Taihoku, Formosa

30:1557-1738 (Oct. 28) 1940. **Partial Index**

*Tribouiet Reaction in Typhoid. S. Chin.—p. 1625.
*Serum Bilirubin in Malaria. S. Shinomura.—p. 1633.
*Endemic Goiter in Formosa. K. Kawaishi.—p. 1667.

Triboulet Reaction in Typhoid.—Triboulet's solution was prepared by dissolving 3.5 Gm. of mercury bichloride and 1 cc. of acetic acid in 100 cc. of distilled water. When 20 drops of this reagent is added to 3 cc. of dilute filtrate of feces from patients suffering from intestinal tuberculosis or enteritides due to typhoid, paratyphoid or dysentery, a brownish precipitate results in five to fifteen hours. Chin, after testing the diagnostic significance of this reaction in 29 cases of typhoid and, as controls, 22 normal adults, reports the percentage of positive reactions as follows: one week of illness, 66.6; two weeks, 86.2; three weeks, 90.0; four weeks, 85.7; five weeks, 47.8; six weeks, 25.0; seven weeks, 12.5, and eight weeks, 0. In none of the typhoid patients did the test give negative reactions during the active stage of the disease. In over 50 per cent of the patients whose stools gave early positive reactions (five hours) the prognosis was grave. Thus the Triboulet reaction can be used as an adjunct in the diagnosis and prognosis of typhoid.

Serum Bilirubin in Malaria.—Shinomura made determinations (Heilmeyer-Grebs method) of serum bilirubin in 19 cases of malaria at various stages of the disease, using 88 normal healthy adults as controls. The average serum bilirubin values in normal persons in Formosa varied from 0.40 to 0.52 mg. per hundred cubic centimeters, while in the malaria patients the variations were between 0.58 and 1.10 mg. per hundred cubic centimeters. When the values of serum bilibilin were compared with the urobilin quotient of Lichtenstein ($\frac{\text{Urobilin in urine}}{\text{Urobilin in feces}} \times 100$) the hyperbilirubinemia in malaria was found not to be the result of liver dysfunction but purely hemolytic in nature.

Endemic Goiter in Formosa.—Out of a total of 318,116 inhabitants of Formosa, Kawaishi and his associates discovered 26,979 persons with evidence of thyroid disease. These patients were examined either in the university clinic or by special investigation of the inhabitants of the entire island. Metabolic studies showed variable basal rates (increased in 27.8 per cent of cases), lowered vagotonia with consequent acceleration of sympathicotony (76.9 per cent) and increased iodine content of the blood. The urinary excretion of iodine was found to be below normal, and oral iodine tolerance tests revealed relatively low blood iodine levels. Chemical analyses of extirpated thyroid glands disclosed a low iodine content of the organs as compared with the average values for the normal gland. In most instances serum calcium was reduced, while as a rule serum potassium either remained normal or was but slightly diminished. Inorganic and total phosphorus also showed some reduction. The values of dextrose tolerance tests fell in the upper normal limits, while in nearly half of the cases the epinephrine hyperglycemic test tended to be depressed. Of the various vitamins the only factor suspected of any etiologic significance was vitamin C; the blood ascorbic acid showed somewhat low values in many instances. In severe cases the liver function was slightly impaired, as tested by the azorubin S. method. Goiter heart can be demonstrated by either unilateral or bilateral enlargement of the cardiac shadow on roentgenograms, the degree of such enlargement being in direct proportion to the extent of thyroid hypertrophy. Electrocardiographic studies in a limited number of the cases revealed such abnormalities as left axis preponderance and prolongation of ventricular contraction, of auricular conduction time and of QRS intervals. No disturbance of the T wave was noted. Blood pressure remained normal in most cases. Kawaishi denies the possibility of mendelian transmission, there being no hereditary relationship in the family trees which he analyzed. Evidence points strongly to the fact of a lack of iodine intake by many patients suffering from endemic goiter. Hypercalcemia is rather common and hence abnormalities in calcium metabolism may be an important predisposing cause of thyroid disease; phosphorus studies in this disease, however, reveal no uniform results. Likewise, the author discredits avitaminosis or infection as being the possible direct causes of endemic goiter. This observer believes that the condition is caused primarily by some etiologic agent closely bound to the geographic and climatic factors; a mere iodine deficiency is not responsible for the condition. Emphasis is placed on the prophylactic measures, especially on improving the general hygienic conditions and, where possible, the removal of mildly affected persons to more favorable surroundings.

Nordisk Medicin, Gothenburg

5:1751-1800 (Oct. 19) 1940. **Partial Index**

Hospitalstidende

*Myocardiac Infarct: Comparison Between Results of Necropsy and Clinical Observations in Patients Over 60. E. Worsaae.—p. 1751.

Necropsy and Clinical Observations in Myocardial Infarct.—Worsaae reports 91 cases of recent myocardial infarct found at necropsy in patients aged from 63 to 88 (only 13 under 70), 60 per cent of whom were women. In all cases the infarct was due to coronary occlusion as a result of advanced atherosclerosis, either as thrombus formation or as the conglomeration of atheromatous masses. In 22 cases the infarct was accidentally found at necropsy. Of the remaining 69, 21 had not shown signs of heart failure. The attack of myocardial infarct was accompanied by typical precordial pain in only 17 cases, the pain was atypical in 11, and there was no pain in the remainder. The condition of the myocardium before the attack apparently does not affect the symptoms accompanying the attack, particularly the pain. The author asserts that no one symptom alone is absolutely characteristic of coronary occlusion and that diagnosis can be made only on consideration of the various symptoms. Circulatory insufficiency must be regarded as the main symptom of myocardial infarct. In the 69 cases there were 14 instantaneous deaths; definite signs of circulatory impairment were established in all but 9 of the remaining 46. Fever, lowered blood pressure, leukocytosis and increased sedimentation speed of the blood platelets will, if present, support the diagnosis; the last two symptoms occur frequently, but neither is constant. Electrocardiography is of especial value. Of the 69 patients 36 died within twenty-four hours; only 10 survived the attack more than a week. Rupture of the heart occurred in 12 cases; in most of these the infarct was at least two days old, but rupture can apparently occur almost immediately after the appearance of the infarct.

Book Notices

Acute Infectious Diseases: A Handbook for Practitioners and Students. By J. D. Rolleston, M.A., M.D., F.R.C.P., and G. W. Ronaldson, M.D., D.P.H., Medical Superintendent, South Eastern Hospital, London. Third edition. Cloth. Price, $4.50. Pp. 477. St. Louis: C. V. Mosby Company, 1940.

In the present edition this excellent book has been revised and brought up to date. Among the eighteen chapters, those dealing with diphtheria, typhoid and paratyphoid fevers and scarlet fever are exceptionally complete and instructive. There are two chapters which were not present in former editions. One concerns erysipelas and the other isolation methods. Each disease has a historical introduction which adds interest to the topic, and the chapters are concluded with ample references. Throughout most of the text there are innumerable allusions to personal observations of one of the authors, extending over a period of years. The book closes with a description of isolation procedures, including some of the plans and special types of buildings used in the London fever hospitals.

Proceedings Dental Centenary Celebration, Baltimore, Maryland, March 18, 19 and 20, 1940. 1840-1940. George M. Anderson, Editor. Sponsors: Maryland State Dental Association and American Dental Association. Cloth. Pp. 1,061, with illustrations. Baltimore, 1940.

Last March several thousand dentists gathered in Baltimore, the birthplace of professional dentistry, to celebrate the centennial of the founding of the three basic features of the dental structure: education, literature and organization. The centenary meeting was the most successful in the history of dentistry; it epitomized the past and the present in effective contrast; it also afforded an excellent view of the future. The *Proceedings*, which gives a complete record of the centenary, is an important contribution to the literature of both dentistry and medicine. It should be considered as a necessary item of any good dental or medical library.

The section devoted to the historical exhibits, with its fine illustrations and detailed descriptions, is remarkably informative and interesting. Also of particular interest are the addresses delivered during the three morning sessions of the Celebration: "A Century of Science and Education," by Dr. William Mather Lewis, president of Lafayette College, "Dentistry as a Health Service," by Dr. Thomas Parran, Surgeon General, United States Public Health Service, and "The Relation of Dental Education to the University Program," by Dr. Raymond A. Kent, president of the University of Louisville.

The scientific program of the centenary was divided into nineteen sections, three papers being read before each section, on roentgenology, full dentures, medical relations, operative dentistry, orthodontics, dental materials, dental libraries, oral diagnosis and bacteriology, removable partial dentures, local and general anesthesia, ceramics, embryology, histology and pathology, public health, oral surgery, fixed partial dentures, practice management, pedodontia, periodontia, materia medica, pharmacology and therapeutics. These fifty-seven papers, the contributions of leading figures of dentistry and the allied professions, occupy almost 600 pages of the *Proceedings*. They are representative of the high purposes of the centenary and form a compendium of the views and accomplishments of dentistry through the course of its first century as a profession. Among the many papers which deal with matters of direct interest to medical men are The Role of Allergy in Medicodental Problems, The Diet of the Child, Focal Infection and Elective Localization in Relation to Systemic Disease, The History of Anesthesia, Dentistry: Its Purposes and Problems in Public Health, Dentistry in Public Health—A Problem in Research, Oral Surgery and Its Relation to Dentistry and Medicine, The Practice of Dental Surgery, The Interrelation of Dentistry and Surgery in the Treatment of Deformities of the Face and Jaws and Child Health—A Dental Obligation. The subjects are indicative of the value of the *Proceedings* to the medical man who desires to strengthen his knowledge of oral problems and who appreciates the importance of dental-medical relationships.

"The Foundations of Professional Dentistry," by J. Ben Robinson, is a brief but scholarly history of dentistry from its beginning through the great year of 1839-1840 during which periodic dental literature, institutional dental education, and formal dental organization were established as lasting and vital forces in the development of a great profession. This section of the *Proceedings* deserves publication as a separate volume, for it should prove useful as a textbook in the dental colleges.

Diagnosis and Treatment of Menstrual Disorders and Sterility. By Charles Mazer, M.D., F.A.C.S., Assistant Professor of Gynecology and Obstetrics, Graduate School of Medicine, University of Pennsylvania, Philadelphia, and S. Leon Israel, M.D., F.A.C.S., Instructor in Gynecology and Obstetrics, School of Medicine, University of Pennsylvania. Cloth. Price, $6.50. Pp. 485, with 108 illustrations. New York & London: Paul B. Hoeber, Inc., 1941.

In this book menstrual disorders and sterility are discussed together because they are closely related. Furthermore, since infertility involves both husband and wife there is included a special chapter on sterility in the male. The book contains thirty chapters, which deal with every phase of menstruation and sterility. In addition there is an appendix in which are listed a large number of commercially available standardized endocrine products and their relative concentration. The book is intended for general practitioners. Because of this the authors describe in great detail office procedures in the diagnosis and treatment of menstrual disorders and sterility. Procedures which require special technical skill or hospital procedures are merely mentioned. There are a few recommendations with which issue may be taken. The authors have long been advocates of the use of roentgen treatment for amenorrhea and they cite the statistics of the literature to support their recommendation. However, in spite of the fact that roentgen therapy definitely does help to overcome amenorrhea and sterility, and in spite of the apparent innocuousness to the offspring, no one yet knows if harm may manifest itself in the third and fourth generations. In some of the lower animals, serious disturbances seem to appear in the third and fourth generations. The authors themselves warn that only a skilled roentgenologist be entrusted with radiation therapy of the pituitary and ovaries. The authors recommend that a complete dilation and curettage be done in the office. They give their patients a few whiffs of ethyl chloride or nitrous oxide for this operation, but few family physicians have the equipment and personnel to give general anesthetics in their office. The authors are somewhat too enthusiastic about recommending endocrine products for the treatment of abnormal menstruation and sterility. However, they have been successful in their own cases. For example, they are fortunate enough to have observed success with extract of pregnant mare serum in five of fifteen sterile women in whom anovular menstruation seemed to be the only cause of the barren marriage. In a series of four hundred and thirty-eight completely studied couples with primary or secondary sterility, only two hundred and two submitted to adequate treatment. There resulted one hundred and thirty-two pregnancies (65.3 per cent), an excellent record indeed. The authors are to be congratulated on their book, for it is full of useful information, well written and presented in a simple style. The typography is excellent and the illustrations are instructive.

Introduction to Medicine. By Don C. Sutton, M.S., M.D., Associate Professor of Medicine, Northwestern University School of Medicine, Chicago. With introduction by Ada Belle McCleery, R.N., Superintendent, Evanston Hospital, Evanston, Illinois. Cloth. Price, $3.25. Pp. 642, with 158 illustrations, St. Louis: C. V. Mosby Company, 1940.

The student nurse of today not only receives preliminary training superior to that imparted some years ago but, in addition, must have a more extensive knowledge of medicine, because of the responsibilities given to her in her various capacities. This book has been written to fill the need for, first, giving the student nurse a quick survey of the fundamental background of disease entities. Symptoms, diagnosis and treatment are covered with the maximum of detail. The early chapters of the book on subjects such as social service and mental reaction of the patient to disease are of dubious necessity. The ensuing chapters, however, should do much to make medicine more understandable to nurses. Such material as is included in the chapters on the relation of bacteria to disease, the transmission of communicable diseases, pathology, history taking, physical examination and

laboratory tests are important. The second section of the book covers completely the diseases of all the systems of the human body in a clear and concise fashion. The illustrations of the book were chosen with care and add to its value.

Proceedings of the National Conference of Social Work. Selected Papers Sixty-Seventh Annual Conference, Grand Rapids, Michigan, May 26-June 1, 1940. Published for The National Conference of Social Work. Cloth. Price, $3. Pp. 736, with portrait. New York: Columbia University Press, 1940.

The steadily increasing size of the volume of *Proceedings* and the widening scope of subjects covered is indicative of changes that are taking place in the field of social work. A paper by George St. J. Perrott on Health and Medical Services Under Existing Federal-State Programs in the Section of Health and Medical Care surveys the expansion of government activity in the public health service where "the number of counties having a full-time medical health officer had reached a total of 1,371 in 1939 as compared with 594 in 1935." The expansion of programs of venereal disease control, maternal and child health, crippled children and public assistance shows the growing extent of government programs for health services. Michael M. Davis in a discussion of What State Legislation Does a National Health Program Demand? calls attention to the program of the organized medical profession in the field of voluntary health insurance and expresses the opinion that any law authorizing such insurance should "protect the principle of free choice." He criticizes the legislative proposals for compulsory insurance made by the American Association for Social Security, of which he says "The drafters of this bill sought but failed to take the advice of progressive physicians." In general, he seems to be of the opinion that compulsory health insurance legislation is not needed at this time. Kingsley Roberts presents the case for health insurance conducted by private groups and hospitals. These *Proceedings* are an invaluable source of information as to attitudes and activities in the field of social work.

Adjustment Notebook for Student Nurses. By Elizabeth M. Jamieson, B.A., R.N., and Mary Sewall, B.S., R.N., Instructor, San Joaquin General Hospital, Stockton, California. Previously published under the title "Ethics Notebook for Nurses." Third edition. Price, $1.25. Loose-Leaf, 25 sheets. Philadelphia: J. B. Lippincott Company, 1940.

Formerly published under the title "Ethics Notebook for Nurses," this work now includes changes in material and in arrangement. Index tabs classify the contents under ten major headings. Under ethical decisions, a page on legal problems has been added. Lists of collateral reading have been simplified and new references inserted. Questions have been more generally used. The loose-leaf form of the book affords opportunity for permanent filing of charts, notes and other illustrative material. On the final page the student is left with the task of using a well integrated personality to guide her adjustment toward happy ends of social usefulness in personal or professional endeavor.

Pharmacology, Materia Medica and Therapeutics. By Charles Solomon, M.D., F.A.C.P., Associate Attending Physician and Chief of the Medical Clinic, Jewish Hospital of Brooklyn. Collaborator: Hazel Houston, M.A., R.N., Instructor in Materia Medica, School of Nursing, Bellevue Hospital, N. Y. C. Fourth edition. Cloth. Price, $3. Pp. 848, with 91 illustrations. Philadelphia, New York, Montreal & London: J. B. Lippincott Company, 1940.

This book is written to help the nurse become a more helpful partner of the physician. It is practical to the extent of naming drugs, their doses and the purpose for which used. It is unpractical if one wishes further information. Pharmaceutic preparations are disposed of in less than five pages; and pharmacy, including solutions, temperature, metrology, arithmetic review, preparation of solutions and doses, prescription reading and dosage in fifty pages. Pharmacology is practically not discussed, so that the term is superfluous. The materia medica consists of brief unsatisfactory statements such as one would find in a dictionary and not what one expects in a book devoted to the subject of materia medica. The book is well printed, clearly written and accurate in statements of fact and it contains a mass of valuable material, but unless other books are used the information given leaves much to be desired and leaves the nurse a technician. The author gives a list of reference books which, if consulted, give the information that will make this book more useful and more practical.

Modern Diagnosis. Edited by Sir Humphry Rolleston, Bt., G.C.V.O., M.D., and Alan Moncrieff, M.D., F.R.C.P. Published on behalf of The Practitioner. Cloth. Price, 12s. 6d. Pp. 286, with 29 illustrations. London: Eyre & Spottiswoode, Ltd., 1940.

In this book the editors have gathered a series of eleven articles on various aspects of diagnosis written by different authors, most of the material having originally appeared in the *Practitioner*. The subjects have been selected as ones of interest to the general practitioner. Of necessity the discussions are relatively brief and practical. Typical chapters are on the diagnostic importance of the tongue and cardiac murmurs in childhood. The last half of the book is devoted to chapters on laboratory diagnosis, such as laboratory tests in diseases of the liver and gallbladder and the basal metabolic rate. The book is clearly written. A fair number of illustrations and tables are included.

Surgery of the Hand. By R. M. Handfield-Jones, M.C. M.B., F.R.C.S., Surgeon to Outpatients, St. Mary's Hospital, London. Cloth. Price, $4.50. Pp. 140, with 95 illustrations. Baltimore: William Wood & Company, 1940.

This concise, well illustrated and well written volume follows closely the teachings of Kanavel. Two thirds of the pages are devoted to infections and their sequelae, the remaining pages being divided between injuries and other surgical conditions involving the hand. In a treatise which covers briefly so wide a field, many dogmatic statements are necessarily made. That they are based on wide experience and thoughtful consideration of the problems involved will be obvious to the careful reader. Both students and practitioners will find the volume an excellent guide to the correct treatment of surgical conditions involving the hand.

In Search of Complications: An Autobiography. By Eugene de Savitsch, M.D. Foreword by Arthur Krock. Cloth. Price, $3. Pp. 396. New York: Simon & Schuster, 1940.

Among the medical biographies of 1940 the life story of Eugene de Savitsch has special flavor. It is witty, colorful, scientific. It describes the career of a boy who came out of Russia in the revolution and who worked in Japan, in San Francisco and in Denver. His naive impressions of American customs learned through clerking in a department store, his chapter on the sanatorium for the tuberculous, his bacteriologic studies, his portraits of Sewall, Carlson in the University of Chicago, Calmette and many others have special flavor. Especially interesting is his description of the routine in the Billings Hospital, where he had some clinical training. Thus he says:

> It is not my intention to be harsh with those who have attained official honor and distinction as the leading medical men of a leading university but only to be skeptical about the wisdom of the present trend toward greater organization in medicine, whereby each individual is inevitably reduced to a big or a little bureaucrat and accomplishment is rarely a personal possession. The best minds, who reach the top, are burdened with administrative tasks which cannot very well help but reduce their usefulness to medicine. Those down the line become cogs in a wheel, and the ideal of service with which most of them were imbued in the beginning is dissipated in a dull and inept bureaucracy. The real aim of greater efficiency and greater attention to the patient is too likely to be diverted into lost motion and less concern for the patient.

In 1936 Dr. de Savitsch was off for Belgium to work in the Bunge Institute in Antwerp and to hospital clinics in Vienna, London, Heidelberg and Amsterdam, and then he went to practice in Washington. There are many aphorisms in this book that merit quotation. There is much in it of life and of excitement.

Institutional Outbreak of Hemolytic Streptococci (Scarlet Fever): Investigation and Report from the Bureau of Communicable Diseases, Los Angeles City Health Department. By Hyman I. Vener, M.D., C.P.H., Assistant Epidemiologist, and George M. Stevens, M.D., Epidemiologist. George Parrish, M.D., Health Officer. Los Angeles City Board of Health Commissioners Bulletin No. 63. Paper. Pp. 30. Los Angeles, 1939.

This report constitutes a complete and interesting statistical study of an outbreak of scarlet fever in an institution in which specific measures were not taken for the prevention of further cases of scarlet fever. The failure of such quarantine arrangements as it was feasible to make shows the importance of unrecognized cases of scarlet fever and immune carriers, including convalescents, in continuing epidemics of scarlet fever.

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Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

PROBLEMS OF AIR CONDITIONING

To the Editor:—At what outside temperature is artificial heating required for comfort? At what outside temperature is artificial cooling required for comfort? I realize that such factors as humidity and the individual differences would make for variations, but taking the average person and an average degree of relative humidity could one get answers to these two questions?

R. C. Shaw, Cleveland.

ANSWER.—Simple as these questions appear, they are far from susceptible of simple answer. This is recognized by the inquirer, who in addition might have pointed out the complicating factors of work, acclimatization, age, clothing, season, body build, duration of exposure, air movement, method of heating, and location. Further, respective heating in winter and cooling in summer do not constitute "artificial air conditioning" but instead single aspects of air conditioning. While legal regulations might demand that janitors provide heat during certain months when the temperature falls below 68 F., there are various combinations between this temperature (and lower ones) and varying humidities and air motion to the comfort of the majority of persons exposed. Conversely, operating instructions might provide that summer air conditioning be set in operation at 78 F.; yet this temperature, associated with other natural or induced atmospheric conditions, might provide complete comfort. In short, there is no minimum or maximum dry bulb temperature that alone may serve as a proper index even for the average.

When in summer months the humidity ranges between 30 and 70 per cent, 98 per cent of persons are comfortable with an effective temperature of 71 F. Below the effective temperature of 64 F. no persons are likely to be comfortable in summer. At the upper limit, when the effective temperature reaches 79 F., no persons are likely to be comfortable. Certainly by the time this range is reached, any available cooling device should be set in operation. In winter time the corresponding optimal effective temperature is 66 F., at which range 97 per cent of persons are comfortable, but above 74 F. effective temperature no one is likely to be comfortable. At the lower extreme, 60 F. represents the degree of cold at which no one can be comfortable. Truly before this point is reached, heat should be provided. All this means that for summer, provide if possible an effective temperature of 71 and in winter 66 F. The foregoing is predicated on optimal or fixed conditions such as air motion not to exceed 25 feet a minute. Lastly it is emphasized that the effective temperature is not the reading from the dry or wet bulb thermometers alone but represents instead a variable set of respective readings from the two instruments. Thus an effective temperature of 66 degrees exists at 70 dry and 58 wet bulbs and also at 72 dry and 54 wet bulbs. Practical charts furnishing all such data are readily obtainable from manufacturers of air conditioning appliances.

PROPHYLAXIS OF RHEUMATIC FEVER

To the Editor:—In the *American Heart Journal* 20:1 (July) 1940 is an article by Wassen and Brown on "Immunization Against Rheumatic Fever with Hemolytic Streptococcus Filtrate." The material used is the filtrate of N. Y. 5 hemolytic streptococcus. I should appreciate further information on this subject and an opinion of its efficacy in prophylaxis, as my wife has the subacute type of rheumatic fever. Are any other methods of prophylaxis available for this condition?

M.D., Illinois.

ANSWER.—In the article referred to, the N. Y. 5 hemolytic streptococcus filtrate was used in an effort to prevent recurrences of rheumatic fever. There has been one previous article on the subject from the same source. No corroborative or disagreeing report has appeared. Previous reports on the prophylactic use of streptococcus materials in preventing recurrences of rheumatic fever have been disappointing. It would seem reasonable to await further work in this field before using such materials in isolated cases. The problem is decidedly one for research at the present time. Further, these authors did not suggest the use of this filtrate in treating active rheumatic fever of any degree, and hence it would not seem applicable in the instance referred to.

Various measures have been suggested in treating active rheumatic fever. None of them have been widely accepted. It may be well to point out that the new chemotherapeutic agents may well be harmful in the presence of active rheumatic fever. Three encouraging reports have appeared on the prophylactic use of sulfanilamide in the prevention of hemolytic streptococcus infection in patients with rheumatic fever. The drug has been given in small doses over long periods of time. It may be well to caution that such prophylactic therapy should still be considered experimental, and as carefully planned research programs, rather than as accepted and proved for general use.

References:

Thomas, Caroline B., and Franez, Richard: A Preliminary Report of the Prophylactic Use of Sulfanilamide in Patients Susceptible to Rheumatic Fever, *Bull. Johns Hopkins Hosp.* 64:67 (Jan.) 1939.

Coburn, A. F., and Moore, Lucile V.: The Prophylactic Use of Sulfanilamide in Streptococcal Respiratory Infections, with Especial Reference to Rheumatic Fever, *J. Clin. Investigation* 18:147 (Jan.) 1939.

Thomas, Caroline B.; France, Richard, and Reichsman, Franjo: Prophylactic Use of Sulfanilamide in Patients Susceptible to Rheumatic Fever, THE JOURNAL, Feb. 15, 1941, p. 531.

FRACTURE AS CONTRIBUTORY CAUSE OF DEATH FROM BRONCHOPNEUMONIA AFTER LONG INTERVAL

To the Editor:—A discussion has arisen among a group of physicians as to whether the fracture of the neck of the femur is a contributing cause to the death of a man aged 70 who died in three days of hypostatic bronchopneumonia a year and a half after the fracture. Some argue that in order to be considered a contributing cause the fracture must have occurred within a couple of weeks before the hypostatic bronchopneumonia and if the latter occurs a year and a half after the fracture the injury is not a contributing cause of the death. They claim that there is support in the literature for their contention. And a few others contend that because the man was in a healthy condition before the injury and did not get out of bed for a year and a half, even though he had traces of arteriosclerosis, the fracture of the femur was a contributing cause of his death and, even though the interval between injury and death is a year and a half, one is a contributing factor to the other. The fracture was never reduced or united, it was painful for the patient to get up for the first six months, and it was impossible to induce him to get up during the later period as he was weak and felt better lying down. Scudder in "Treatment of Fractures" stated: "An elderly patient may die of shock within two or three days, or within a week of hypostatic pneumonia, or may live several weeks and die of exhaustion because of pain and the enforced confinement." Since the author does not increase the interval, some assume that the fracture should not be a contributing cause in the case under discussion. Would you kindly give me your opinion and refer me to the literature that specifically decides this as to cause and effect? (Reference: Scudder, C. L.: Treatment of Fractures, ed. 11, Philadelphia, W. B. Saunders Company, 1939, p. 837).

P. J. Imparato, M.D., Brooklyn.

ANSWER.—This question was referred to an internist and to an authority on mortality statistics. The internist replied:

"One would be inclined to agree with the physicians who believe that the fracture was not a contributing cause to the development of pneumonia one and a half years later. It is, of course, an involved question. The fracture no doubt did set up a long train of circumstances in the course of which pneumonia developed and the patient died, but the decision as to whether a direct contributing relationship exists might be perhaps a matter for legal controversy. Insurance companies issuing "double indemnity" policies usually set a definite time limit of a few months between cause and probable or compensable effect. A similar problem may arise, for example, with a patient who had typhoid at the age of 30 and cholelithiasis with perforation and death at 35. The typhoid may have favored the subsequent development of gallstones, which caused obstruction, which caused perforation, which caused death. But who could say definitely that typhoid was the contributing cause?

"In a case such as that presented, if the enforced confinement to bed as a result of a fracture in an aged person led to a continuous and progressive downward course, the matter would be clearer in spite of the long lapse of time. Furthermore, it might be argued that confinement to bed reduced the patient's resistance to render him more susceptible to an infection of the respiratory tract which supervened and ended in death from pneumonia. However, from the description given, the patient's condition between times seemed to have been fairly good until the terminal incident occurred. Now it is not uncommon for persons of 70, especially those with arteriosclerosis, to be subject to such apparently sudden changes as that described which end in death, and there need be no reason to associate them with accidents which occurred months or years previously. No evidence is given in the query to assist in deciding whether the

pneumonia was of an infectious nature, such as occurs after a cold, for example, or, as is stated, hypostatic as the result of heart failure or circulatory failure.

"According to most authorities (see Heffron, Roderick: Pneumonia, New York, Commonwealth Fund, Division of Publications, 1939, p. 516, for numerous references on the subject), if accidents, injuries or surgical operations are followed by pneumonia, the pneumonia should occur not longer than several days or a week afterward if a direct relationship is to be assumed. H. A. Reimann (The Pneumonias, Philadelphia, W. B. Saunders Company, 1938, p. 340) states: 'The infeeblement of old age, like that of early infancy, is conducive to the development of pneumonia. The presence of degenerative cardiovascular renal lesions, chronic pulmonary disease or other infirmities increases the liability to pneumonia. In many cases a slight infection of the respiratory tract is all that is necessary to initiate pulmonary invasion.'"

The statistician replied:

"According to the coding rules for causes of death (International List of Causes of Death), the original external violence would have dropped out of the picture because of the length of time ensuing since the accident occurred. This would leave the death officially assigned to hypostatic bronchopneumonia. As a physician, however, it is felt that the arbitrary exercise of the coding rules is not necessarily a correct judgment on this case. Actually, it seems that the fracture has contributed to the risk of getting hypostatic bronchopneumonia. The amount which it has contributed to this risk might be small, but nevertheless it could not be ruled out completely as a contributory cause to the death. A mistake in thinking on this type of question results from not realizing that death often occurs not from one cause or the other cause but from a combination of several risks of dying. In this particular instance, the contribution of the fracture was not to the risk of death so much as it was to the risk of obtaining bronchopneumonia from which death occurred."

FATAL FLUORIDE POISONING FROM ROACH POWDER

To the Editor:—Two days ago a white girl aged 14 took a generous portion of roach powder for the purpose of committing suicide. I am anxious to know the physiologic antidote for sodium fluoride, as the patient died about three hours later even though she was vigorously treated by emesis and a thorough washing of the stomach. Treatment was begun immediately after she took the poison but she died later with cramps and tetanic convulsions. She also appeared to be blind just before death. Does not poisoning by sodium fluoride cause an acute calcium deficiency in the blood and would calcium salts intravenously combat this loss? It is unknown just exactly how much sodium fluoride the patient took, but she dissolved it in water before taking it.

H. D. Barber, M.D., Fayette, Ala.

ANSWER.—Sodium fluoride, when dissolved in water and swallowed, is rapidly absorbed from the gastrointestinal tract. In acute poisoning its irritant action is frequently sufficient to produce vomiting and purging, although the cramps and spasms are referable to the hypocalcemia which results from the calcium-binding ability of the fluoride ion. Fluorides undoubtedly have an inherently toxic action on cells apart from their upsetting of the calcium metabolism. The sharp pains and muscular weakness commonly observed in fluoride poisonings are probably due to the interference with normal biochemical processes involved in muscular activity (Embden, G., and Hentschel, H.: *Biochem. Ztschr.* **156**:343, 1925. DeEds, Floyd: *Medicine* **12**:1 [Feb.] 1933). Mortality in acute fluoride poisons is high; Roholm (Fluorine Intoxication, London, H. K. Lewis & Co., 1937) reports sixty fatalities in a total of 112 cases. The fatal dose of sodium fluoride for the average adult is from 3 to 15 Gm.

Treatment to be effective must be prompt and should be directed toward (1) preventing further absorption of the fluoride and (2) combating, as far as possible, the toxic effect of the fluoride that has already been absorbed. Absorption may be prevented by giving lime water, calcium carbonate suspensions or milk and by inducing vomiting as quickly as possible. Thorough gastric lavage with lime water is desirable. Neutralizing gastric acidity by calcium carbonate decreases fluoride absorption from the gastrointestinal tract. If much fluoride has already been absorbed prior to the institution of treatment, the prognosis is poor. However, absorbed fluorides may be partially counteracted in their effect by the slow and careful intravenous administration of soluble calcium salts, such as 10 per cent calcium chloride solution or calcium gluconate. Intramuscular injection of solution of parathyroid may be expected to have a similar effect in elevating the blood calcium level.

Death often results from respiratory failure during the violent spasms that occur early in acute poisoning. Artificial respiration may be necessary to carry the patient through this period until the effects of the other antidotal measures afford relief.

HEAT RESISTANCE OF BODY SKIN AREAS

To the Editor:—What degree of heat can the human skin stand without showing evidence of a burn? At approximately what temperatures may first, second and third degree burns be expected? Do the different areas of the body show different levels of heat endurance? Is the scrotum especially susceptible to burns when the entire skin area is exposed to an increased temperature?

M.D., New York.

ANSWER.—Dry heat of 140 F. and upward is capable of producing burns. Moist heat of 125 F. will produce scalds. The higher the temperature of the agent the more severe will the burn be, other things being equal. Dense and thick skin, such as that of the palms, soles and buttocks, offers a greater resistance to heat than is offered by that of thinner, softer texture such as the neck, abdomen and axillas. Tissues are not all equally susceptible to destruction by heat. There is some variation in the reaction to heat in the skin of different persons. The skin of the scrotum is thin and burns with relative ease. It is believed by some that extensive burns involving the genital areas in men carry a higher mortality than do burns involving an equal proportion of the cutaneous surface in other parts of the body.

IRON AND LIVER FOR SECONDARY ANEMIA

To the Editor:—Is it established that the Whipple fraction (secondary anemia fraction) is of value in secondary anemia as is indicated by the work of Barker and Miller? Pharmaceutic houses generally detail combinations of iron and liver for treatment of secondary anemia.

M.D., Washington.

ANSWER.—It is probable that the Whipple fraction of liver contains some hemopoietic material aside from its iron content, as indicated by Barker and Miller (*Am. J. M. Sc.* **195**: 287 [March] 1938). However, it is important to recognize, as these authors point out, that adequate doses of iron are much more effective in hypochromic anemia. The type of anemia studied by Whipple was one produced by frequent and relatively massive bleedings. Most cases of hypochromic anemia seen in man are not due to a comparable blood loss, and consequently the anemia is caused chiefly or entirely by an iron deficiency and only in small part if at all by a deficiency in those factors present in the so-called Whipple fraction of liver.

Routine administration of a combination of iron and liver in hypochromic anemia is to be condemned for two reasons: first because adequate amounts of iron are often not contained in such preparations and second because of the much greater expense to the patient. In cases with massive and repeated hemorrhages it is probably desirable. It should be pointed out that the alcoholic fraction of the liver (anti-pernicious anemia fraction) is of no value in hypochromic anemia.

CITRATES NOT HELPFUL IN CORONARY THROMBOSIS

To the Editor:—Why is sodium citrate not recommended as an adjunct in the treatment and as a preventive of coronary thrombosis? Its value in inhibiting clotting of blood is already well known.

A. J. Fassenbaker, M.D., Westernport, Md.

ANSWER.—Sodium citrate is an excellent anticoagulant outside the body but when it is introduced into the blood stream free calcium in the plasma combines with the citrate to produce a relatively insoluble calcium citrate, thereby nullifying the anticoagulant properties of the citrate radical. As a matter of fact there is some evidence that sodium citrate introduced intravenously into the blood stream increases the rate of coagulation in the blood; therefore it should not be considered in this particular problem.

DISINFECTION OF SHOES

To the Editor:—Apparently the sterilization of shoes is an item which comes up for notice frequently; I notice a communication on the subject on page 90 of the January 4 issue of The Journal. I should like to add a note which might appeal to some users more than the formaldehyde spray used. I have used it frequently on my own shoes and have seen no ill effects either to shoe leather or to feet. Instead of a concentrated spray of formaldehyde, which sometimes does not thoroughly cover the leather surface, I use a 6 per cent solution, which is poured into the shoe and sloshed around over the toe and heel inside. There is nothing about this treatment to harm the leather. The shoe should be turned upside down so as to drain out well and can be worn the next day. This can be repeated every night for two or three weeks in succession. I have used a 10 per cent solution on occasion and have not noticed any harm to the leather or wearing quality of the shoe.

Hugh M. Hart, M.D., New Wilmington, Pa.

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Symposium on Traumatic Surgery

The April (New York) Number of the *Surgical Clinics of North America* is of timely importance to the entire medical profession. Why? Because it features a *22-Clinic Symposium on Traumatic Surgery* that covers injuries of the body from head to feet. With automobile and industrial injuries becoming increasingly frequent in the practice of general practitioner and surgeon alike, this April Number is one that you will certainly never wish to be without.

In this Symposium are clinics on Industrial Accidents, Head Injuries, Traumatic Lesions of the Chest, Abdominal Trauma, Injuries of the Hand, Foot Disturbances, Treatment of Avulsion of the Skin, Inguinal Hernia in Children, Injuries of Soft Tissue in Infants and Children, Rupture of the Spleen and others of equal importance.

And then in addition to this really outstanding 22-Clinic Symposium, you get four other excellent clinics, including an especially practical discussion of the Subcutaneous and Intraperitoneal Use of Sulfanilamide.

Forthcoming Numbers of the Surgical Clinics of North America will include the following Symposia —Gastro-intestinal Diseases in the June Number from Lahey Clinic; Surgical Treatment of Cancer in the August Number from Mayo Clinic; Hyperthyroidism in the October Number from Cleveland Clinic; Military Surgery in the December Number from Philadelphia.

No wonder subscribers enthusiastically say these Surgical Clinics of North America give them post-graduate teaching unsurpassed in the literature.

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